IMPERIAL MYCOLOGICAL INSTITUTE
25 APR. 1938

MALTA

ANNUAL REPORT

ON THE WORKING OF THE

DEPARTMENT OF AGRICULTURE

DURING

1936-37.

Published by Authority

MALTA
GOVERNMENT PRINTING OFFICE

1938

SOME WEIGHTS AND MEASURES.

MALTESE AND ENGLISH EQUIVALENTS.

	Maltese		*English*
1. *Weights*			
	1 rotolo	=	1.75 lbs.
	1 Qantar (100 rotoli)	=	175 lbs.
	1280 rotoli	=	1 ton.
2. *Measures*			
(*a*) *Wine*	1 barile	=	9.50 gallons
(*b*) *Land*	1 tummolo	=	0.27 acres
	3.6 tummoli	=	1 acre
	1 salma (16 tummoli)	=	4.4 acres
(*c*) *Volume*	1 salma (16 tummoli, 96 mondelli)	=	64 gallons or 1 quarter.

NOTE:—For sulla and straw, in Malta 1 soma is a load of 10 bundles. In Gozo, 1 soma is a load of 8 bundles, but the weight per load is roughly the same as in Malta.

MALTA

Report of the Department of Agriculture for the year 1936-37.

OFFICE OF AGRICULTURE — MALTA.
Valletta, 18th January, 1938.

Sir,

I have the honour to forward the report on the Agriculture of Malta for the Agricultural Year 1936-37 ending in November, 1937, and on the working of the Department of Agriculture during the financial year 1936-37.

I have the honour to be,
Sir
Your obedient servant,

G. MICALLEF,
Director of Agriculture.

His Honour,
The Lieutenant-Governor.

REPORT OF THE DIRECTOR.

ADMINISTRATION.

STAFF.

The past policy of training the technical officers has been kept up. Mr. De Brincat, the Horticulturist to the Experimental Farm, after finishing with his training in England, has registered for another year of training at the Royal Technical Institute of Horticulture and Gardening at *Le Cascine*, Florence, while Mr. Darmanin, the Assistant Horticulturist, after obtaining the Higher Diploma in Dairying at the Royal Technical Institute of Dairying at Lodi (Milan), has proceeded to Reading University for another year's training in the same subject.

Mr. Peralta, the Plant Pathologist, has obtained his doctorate in Agrarian Sciences at the Universities of Florence and Bologna and has proceeded to England for another year of post-graduate training in Plant Pathology at the Imperial College of Science and Technology, South Kensington.

Mr. Paris, the Assistant Superintendent of Public Gardens and Plantations, has passed successfully the Intermediate Science Examination at the Univesity of Reading, and is now reading for the Final Examination in B.Sc. Horticulture.

Mr. Savona, who has been selected to fill the post of Viticulturist and Oenologist in due time, is reading for the B.Sc. (Agr.) degree at the South Eastern Agricultural College, Wye.

LEGISLATION.

A very important piece of legislation was enacted during the year, namely the Pig Breeding Ordinance No. X of 1937, and the Pig Breeding Regulations published under the same Ordinance by Government Notice No. 314 of the 20th July, 1937.

The Ordinance provides for the registration with the Director of Agriculture of all boars of the age of 5 months or over, and for the licensing of all service boars of the age of eight months or over, the service of boars below that age being prohibited. The Ordinance also provides for the publication of lists of licensed boars twice a year in the Government Gazette, for the notification of contageous or infectious diseases, as well as for the enactment of rules under the Ordinance for fixing the conditions under which registration and breeding certificates may be asked and granted, for the regulation of service fees, the loaning of stud boars from the Government Stock Station, the prosecution of offenders and, generally, for carrying the provisions of the Ordinance into effect.

The Pig Breeding Regulations set forth the time within which the first registration must be made, the manner and form of application for registration and for breeding certificates, time and conditions of issue, renewal, suspension or withdrawal of licences, conditions of transfer of licensed boars, service fees, and premiums payable by the Government to licensed boar keepers, and the keeping of a stud book.

Besides the Pig Breeding Ordinance and Regulations further regulations for the improvement of the export trade of onions were published by Government Notice No. 217 of the 4th June, 1937.

Special Reports. This Report includes special reports on the following branches :—

a) Report on the Ghammieri Experimental Farm and Stock Station by the Director of the Experimental Farm and Agricultural Organizer — Appendix I, page XXXIII.

b) Report on Viticulture by the Oenologist — Appendix II, page XLVII.

c) Report on Public Gardens and Plantations by the Superintendent of Public Gardens and Plantations — Appendix III, page LI.

d) Report on Plant Pathology — Appendix IV, page LX.

e) Report on Agricultural Exports by the Adviser in Agricultural Marketing and Controller of Agricultural Exports — Appendix V, page LXIV.

f) Report on Soil Preservation by the Soil Engineer — Appendix VI, page LXXIII.

Revenue and Expenditure. The actual revenue collected during the year 1936-37 amounted to £3,370. 3. 7½ as compared with £2,435. 12. 2 for the previous year; while the expenditure reached £28,970. 12. 1½ as against £27,129. 12. for the year 1935-36.

Detailed figures of the Revenue and Expenditure for the financial year 1935-36 and 1936-37 are given in Tables I and II respectively.

STATISTICS

I. GENERAL SURVEY OF THE AGRICULTURAL YEAR, 1936-37

The mean average rainfall of Malta and Gozo in 1936-37 amounted to 18.02 inches as compared with 13.32 inches in the preceding season. The total rainfall was, therefore, again much below the previous 14 years average of axxproximately 22 inches.

The autumnal rains in both Islands were very late. Rainfall was negligible up to the 23rd October, but light showers fell on the 24th and continued to fall intermittently up to the end of the month accompanied by relatively cold weather. The rainfall to the end of October only totalled about 1¼ inches. Light showers fell again on the 12th November, but as the rainy season usually begins in September, the crops were about one month late in germinating. Substantial rain fell on the 14th and 15th November which was very beneficial to all crops. Rain fell again on the 22nd, and on the 24th November there was a heavy storm during which rather over 2 inches fell in the course of the morning which was general over the Island : this heavy rain caused extensive damage particularly in the eastern district. A period of rainy weather continued up to the end of the month giving a total rainfall for November of around 6 inches.

The unirrigated crop of winter potatoes did not sprout until the middle of November, and as such it was rather late for the crop to develop satisfactorily before the commencement of the cold weather in end-December and January when strong north-easterly winds caused considerable damage. A scirocco which prevailed for four days during

the first week of December gave heavy dews, and, but for the rain which fell on the evening of the 8th December, an outbreak of blight would almost certainly have appeared on the winter potatoes.

Except for a few days, the whole month of December was wet, the average rainfall totalling about 5 inches. A strong gale which blew for three days in the third week of December damaged the potato plants and the damage was accentuated by a certain amount of ground frost in the Żabbar, Żejtun, Marsa and Fiddien areas on the 28th. Forages and vegetables, which did not suffer much from bad weather and frost, were, however, checked by the heavy rains which fell during November and December. Later, a frost was generally experienced throughout the Island on the 15th January which terminated the growth of all the non-irrigated potatoes before they had reached maturity.

Rainfall after the end of December was well under average: the January/February total was only about 4 inches and, after about ½ inch in March and a similar rainfall in April, the rainy season terminated with a few light showers in May.

The relatively dry and warm weather during February and March benefited all crops with the exception of sulla which had suffered particularly from the early season drought. These weather conditions were again, however, as in 1935-36, very favourable to the potato moth: moth infestation of the spring crop was more general than in the previous season,, and a considerable proportion of the spring and summer crop potatoes which were being stored for local consumption were totally destroyed.

On the whole, the agricultural year under review was better than the previous two and may be described as generally satisfactory. Briefly, as regards the principal crops, cereals, beans, vetches and vegetables benefited by the heavy November/December rains followed by the warm spring, and gave average or over--average yields: whilst the winter potato crop was late and small owing to its being cut off by the mid-January frost, the spring potato crop was over-average: the onion and cumin seed yields were fair but were somewhat below average owing to the scarcity of late rains: forages and grapes were the most unsatisfactory crops, the former suffered from the early season drought which did not enable them to become established before the winter rains, and the latter again yielded well below average following the second successive dry winter which gave inadequate sub-soil moisture for growth during the late spring and summer.

II. CROPS.

The estimated area under the various crops for the year 1936-37 was 42,483½ acres. It is estimated that 5,867 acres of these were planted with second crops. The acreages of the various crops planted were as follows: Cereales, 19,311 acres; vegetables (including tomatoes and melons), 4,715 acres; forage crops, 9,752 acres; cumin and cotton, 1,271 acres; vines and fruit trees, 3,274 acres; and tobacco 27½ acres.

The land under cultivation in Malta and Gozo has been decreasing for a good number of years as the result of encroachments by the building of houses, the widening and opening of roads and the construction of playgrounds and aerodromes.

There was nothing to make amends for this continuous encroachment before the year 1935, and land owners and speculators were absolutely free to occupy the best lands in the valleys and low lands by interminable rows of houses, leaving behind them the bare rocks of hilltops and uplands, and screening the rest of the country-side behind heaps of stone and mortar.

A poor attempt to save what could be saved was made on the 8th January, 1935, when the Fertile Soil Preservation Ordinance was enacted, which prohibited the burying of fertile soil under building sites, and made it incumbent on "builders" to rescue the soil and make it available for the reclamation of rocky lands or for the improvement of lands already under cultivation. As a result about 200,000 cubic yards of rich red soil have been recovered from building sites, which has served for reclaiming or improving over 100 acres of land. Admittedly this result is not far-reaching and it very poorly compensates the large tracts of level country, with deep fertile soil, which

have been completely and permanently withdrawn from agriculture during the same period; but the Fertile Soil Ordinance has proved to be beneficial in other directions, in as much as it has acted as a deterrent against the occupation of the best lands, making it cheaper to build on rocky wastes, where there is no soil to be removed.

The disastrous effects of encroachment are being offset to a certain extent also by the annual increase of land brought under irrigation. The area under irrigation is increasing from year to year keeping pace with the increase of the urban population and the increasing consumption of vegetables on the one hand, and of the water supply and the means of pumping it on the other. Mechanical means for pumping both upper and lower level water have greatly increased during the last few years, and as a consequence kitchen gardening has almost doubled within the last 7 years. While the area under citrus trees generally grown under irrigation has remained practically the same, the area under "other vegetables", to a great extent irrigated, was during this period 1779, 1890, 2223, 3045, 3200, 2088, and 2183 acres respectively, which gives a mean of 2344 acres per annum. The acreage for the last two years was almost all irrigated, those years being exceptionally dry. The cultivation of summer potatoes, early winter potatoes and tomatoes, not included under "other vegetables" has also been intensified by the extension of mechanical irrigation.

The area under continuous irrigation is now estimated at a little over one and three-fourths square miles. The number of mechanical irrigation and pumping appliances in operation in Malta, Gozo and Comino compared with that of 1935-36, is tabulated below :—

	Air Motors		Oil engines and centrifugal pumps		Water Mills "Noria"		Other Mechanical Appliances		Total	
	1935-36	1936-37	1935-36	1936-37	1935-36	1936-37	1935-36	1936-37	1935-36	1936-37
Malta	354	377	99	108	249	239	96	86	789	810
Gozo	77	116	36	53	16	16	19	23	148	208
Totals ...	431	493	135	161	265	255	115	109	946	1,018

Wheat. Wheat was sown on an area of 9,415 acres, as against 9,813 acres in 1935-36. This decrease in the acreage is due chiefly to the withdrawal from agriculture of a large tract of country in the Central District. Sowing during the months of November and December was carried out with some difficulty, owing to the wet condition of the soil. The development of the plants was checked by excessive rains during December and by the cold weather and frost during January. With favourable weather in February and March a marked improvement followed, the plants tillered properly producing strong shoots and the growth resumed normal aspect. Although there was a marked shortage of rainfall, the plants proceeded to grow regularly, producing fine ears well filled with grain. The crop was also free from disease, but for slight traces of rust in the low-lying districts. This year, therefore, the crop was very satisfactory, with an estimated production of 40,811 qrs., equivalent to the high average yield of 34.68 bushels per acre, as against last year's production of 29,451 qrs. and an average yield of 24 bushels per acre.

Barley. Barley and meslin were grown on an area of 5,079 acres, made up of 2,924 acres of barley in Malta, and 167 acres of barley and 1,988 acres of meslin in Gozo. Last year's acreage under barley in both Islands amounted to 3,020 acres, and that of meslin amounted to 1,847 acres. There was an increase in the acreage of barley in Malta and an increase in the acreage of barley and meslin in Gozo over last year's acreage, of 48 acres and 164 acres respectively. Meslin is grown chiefly in Gozo, and it is a mixture of wheat and barley in the proportion of two parts of wheat and one part of barley.

Owing to the low rainfall and absence of scirocco during the ripening period, the barley crop was very satisfactory this year in both Islands, the total yield being estimated at 28,515 qrs., viz. — 18,562 qrs. of barley and 9,953 qrs. of meslin, as compared with last year's yield of 13,776 qrs. of barley and 6,940 qrs. of meslin.

Maize. Dry-farmed maize is grown chiefly as a catch crop in early summer, but owing to the shortage of rain in the spring of 1937, the soil and sub-soil were mostly unsuitable for dry-farmed crops, and the acreage under maize amounted to only 281 acres, with a very poor production of 541 qrs., last year's figures being respectively 399 acres and 798 qrs. Owing to the failure of sulla this year, more maize was grown under irrigation and used as green forage for animals during summer.

Broad Beans. The cultivation of broad beans exceeded that of last year by 178 acres, a total of 1,427 acres being grown in Malta and 504 acres in Gozo, with an estimated yield of 8,526 quarters. The corresponding figures in the preceding year were 1,753 acres and 5,685 qrs. Notwithstanding, the shortage of rain during spring the production was fairly satisfactory, due to the favourable climatic conditions during March/April. Broom-rape was not rife as last year, and very little traces of bean-rust were in evidence. The yield, namely 4.4 quarters per acre as compared with an average yield of 4.2 quarters for the preceding 10 years, was generally satisfactory.

Winter Potatoes. The area under winter potatoes, including the early irrigated crop, amounted to 4,187 acres, as compared with an area of 3,281 acres in the previous year. The production was estimated at 8,176 tons as against last year's yield of 10,950 tons. Owing to the late commencement of the rainy season, sprouting on non-irrigated land, which forms the bulk of the crop, was late. There were hardly any signs of blight, except in a few instances caused by the heavy dews which fell on the scirocco days in the first week of December, but the disease was checked in time by the heavy rains on the 8th of the same month. The crop progressed satisfactorily until the end of December when ground frost was noticed on the plants in the East District, Marsa and Fiddien, causing them considerable damage. Again on the early morning of the 15th January, 1937, a general frost terminated growth before the time, the result being a poor yield and small tubers.

Spring Potatoes. The area under spring potatoes consisted of 5,498 acres, as against last year's 6,287 acres. The produce was estimated at 23,786 tons as compared with the preceding year's yield of 12,490 tons. Notwithstanding the shortage of rain in spring, the crop was very satisfactory, and was moreover perefectly healthy. The decrease in acreage was more than compensated by an increased production especially in the case of the early and main crops. The late crop on non-irrigated land was also good but inferior in quantity to the early and main crops.

During the past season the imports of seed potatoes amounted to 84,374 cwts; made up as follows:— 51,129 cwts. Champions, 5,650 cwts. Eigenheimer, 300 cwts. Bevelander, yellow-fleshed, 13,914 cwts. Up-to-date, 11,635 cwts. Arran Banner, 1,714 cwts. Northern Invincible and 32 cwts. miscellaneous white-fleshed. The Invincible seed imports were reduced by 75%, the decrease being more than made up by increased imports of Arran Banner and Up-to-date. Since the abolition of the bulky 2 cwts. pack in favour of the 1 cwt. bags, the condition of seed has improved and less wastage was noticed. Planting was slightly later than usual but it was carried out under favourable conditions; germination was good and the development of the crop was satisfactory. Practically no attack of potato-blight or other disease in both Islands was reported, but spraying was recurred to by many farmers as a preventive against possible infection. The shortage of rain during spring caused premature ripening. Apart from early ripening, these weather conditions were again, however, as last year. very favourable to the potato moth: moth infestation was more general than in the previous season and this Department had to enforce stringent measures in the inspection of packages of potatoes for export, particularly to the United Kingdom, where moth infested potatoes are rigidly prohibited.

The export of potatoes to the United Kingdom has, this season, considerably increased and around 5,000 tons of white-fleshed spring potatoes were exported to that country. Good prices for these varieties were realized and maintained throughout the whole season. As a result of the import and crisis duties imposed on the local potatoes by the Dutch Government, the prices fetched for the yellow-fleshed potatoes were low, although over 5,000 tons were exported to Holland. The yellow flesh "Champion" variety is preferred by continental countries. The average price for the spring crop of potatoes was £4. 16. 0 per ton. The yield, this season, was over-average, and as such, a large stock of the crop was stored for local consumption, but unhappily it was almost totally destroyed by the moth. This year's production was equivalent to a yield of 4.3 tons per acre as compared with an average yield of 3.7 tons per acre during the preceding ten years which is rather more than satisfactory.

The results obtained with the Arran Banner variety proved very satisfactory and the imports of seed of this variety are increasing every year. This season not less than 11,635 cwts. of this variety were imported for seed purposes, which is an outstanding seed feature as compared with 560 cwts. of this variety imported in 1934-45, and 2,715 cwts. in the 1935-36 season.

Summer Potatoes. Summer potatoes were grown on an area estimated at 245 acres as against last year's 480 acres. The production was estimated at 1,732 tons, as against a total of 2,025 tons in the preceding year. Since the introduction of the Arran Banner variety the planting of the local seed, originally a variety of White Elephant has greatly decreased, particularly at Mellieha, St. Paul's Bay and Mġarr. In these districts farmers have recurred to earlier sowing with the Arran Banner variety, rather than in March, and after this crop they are availing themselves of the irrigated land and planting pumpkins during the summer months. The average price for the summer crop of potatoes was £6. 14. 6 per ton.

This year's aggregate production of potatoes in these Islands, for the winter, spring and summer crops, amounted to 33,694 tons, and taking the average wholesale prices per ton for the winter, spring and summer at £4. 5. 4; £4. 16. 0; £6. 14. 6 respectively, this crop represents a value of £675,825. 16. 1½ paid direct to the grower.

Vetches. The area under vetches amounted to 2,605 acres, with an estimated yield of 8,464 qrs., as compared with 2,375 acres and 4,274 qrs. in the previous year. It may be observed that, although vetches are sown in the months of February and early March, during which months the total rainfall amounted to only 2.2 inches, the average production of 3.2 qrs. per acre as compared with an average production of 2.4 qrs. during the preceding three years, was regarded as satisfactory. This year no diseases were recorded on vetches, and aphides were altogether absent.

Onions. The area under onions amounted to 1,359 acres as against last year's 1,073 acres. The production was estimated at 7,831 tons as compared with last year's 8,036 tons. A marked increase in the acreage is due to a further improvement in prices during the past year, attributable to a sustained demand from abroad for the graded produce since the introduction of the regulations for the export of onions published by Government Notice No. 179 of the 20th May, 1936.

Again, this year the autumnal rains commenced too late, and consequently the seed-beds were almost entirely free from any disease due to damp weather and persistent rains. Transplanting was made in favourable weather conditions as onions are mostly planted in January and the beginning of February, which were practically dry months. The plants have done well during their period of growth, but the shortage of rain was responsible for a much lower yield in comparison with last year's crop.

The crop was of the medium commercial size, and fairly good prices were realised, the average price paid to farmers being 3s/- per qantar.

A seed of a new variety of onion, the Egyptian round yellow Dahaby type, was imported and extensive trials were made as regards yield. The results obtained were not so successful as to encourage its cultivation.

Tomatoes. Tomatoes, in previous years, were mostly grown as a catch crop on dry-farmed land, but now they are being also extensively grown on irrigated land, and this year, although the rainfall during the Spring did not exceed 1½ inches, the total area under summer and autumn tomatoes (dry-farmed and irrigated) was estimated at 780 acres, as against 798 acres in the previous year. The total production was estimated at 52,760 cwts. as compared with 28,336 cwts. in the previous year.

This year, tomato plants did not suffer from excessive heat during July and August as they did last year, and as such the yield was not to be complained of. The fruit was not attacked by disease and the quality was good, particularly that of the irrigated crop and the late crop ripening in September and October. Owing to mild weather conditions coupled with the early rain in September, locally fresh tomatoes were available till the end of December.

This season another two canning factories have been established in addition to the former three, one in Gozo and the other at Hamrun.

The new varieties of tomatoes introduced by this Department, especially the San Marzano, are now being cultivated on a larger scale, and the better quality of the raw material has helped to improve considerably the end-product, which has now become established on the local market. Prices for tomatoes were again this year, good, the average price for the grower being 3s/6½d. per cwt.

Melons and Water Melons. Melons and water melons were cultivated on an area of 568 acres, of which 309 acres in Gozo. The production was estimated at 38,443 cwts. The corresponding figures for last year were 516 acres with an estimated yield of 32,814 cwts. Notwithstanding the dry spring the crop was fairly abundant, but was rather lacking in quality, owing to the mildenss of the summer. Prices were reasonable, ranging between 5s. and 6s. per cwt.

Other Vegetables. The returns for other vegetables show an area of 2,183 acres, with an estimated production of 158,021 cwts. Last year's acreage amounted to 2,088 acres with a total yield of 144,607 cwts. Again this year, the prices for vegetables were dear; cauliflowers which are planted out in May/June and come into maturity in autumn were selling at 8 skudi per qantar. This was due partly to lack of abundant rain in autumn and partly to the scarcity of rain in the preceding spring in consequence of which dry-farmed cultivation was greatly reduced. After mid-November, rain fell abundantly and the warm weather during the month caused the heads of cauliflowers to bolt in a short period, so that there was a glut during late November and December. Prices improved in January and February and cabbages and cauliflowers were selling at 6 and even 10 skudi per qantar.

All other vegetables such as vegetable marrow, pumpkins, gourds, long marrow, and minor vegetables such as Kohl Rabi, carrots, etc., were not cheap except for a few weeks during the glut season. The mean yield of 72.3 cwts. per acre was below the average yield of 79.8 cwts. per acre during the preceding 10 years.

Forages. The year under review was not so bad as the last for the cultivation of forage crops, the average rainfall being around 4½ inches over that of last year, although again badly spread during the November and December period. Sulla and caterpillar in certain district germinated in early October, but suffered from excessive drought up to mid-November. In the Eastern District the germination of sulla followed the first rains in November, but subsequent development in that as well as in other districts was further delayed by the continuous wet weather during the months of November and December. Growth was very slow owing to the cold weather during January, but with the improved conditions of temperature in February and March both sulla and caterpillar developed normally in the Central and West Districts, while in the East District the plants remained stunted and the yield was poor. In March sulla-mildew was noticed here and there in both Islands, and in some districts, particularly in Gozo, the crop was attacked also by insect pests.

The development of caterpillar plant was hardly better than that of sulla. Green barley retarded more than in other years, owing to the late rains in autumn, and where water was available, farmers had recourse to irrigation in order to secure an early green fodder.

The total area under forages amounted to 9,752 acres, as compared with 9,441 acres in 1936. The estimated production amounted to 448,338 "some" or loads of ten bundles; last year's production being estimated at 322,605 "some". This year's figures include sulla with an area of 6,744 acres and an estimated yield of 306,410 "some"; green barley with an area of 1,348 acres, and an estimated yield of 78,212 "some"; and caterpillar plant with an area of 1,660 acres, and an estimated yield of 63,716 "some".

The average yield of these forages was of 40.6 "some" which is better than last year's average yield, but compares unfavourably with the average yield of 57.0 "some" for the preceding ten years.

Cumin. Cumin was sown on an area of 1,220 acres with an estimated production of 4,033 cwts. Last year's figure was 1,529 acres, with an estimated yield of 5,912 cwts. The area under cumin varies greatly from year to year, depending as it does on the fluctuation of prices of the seed for export. However, this year, during summer, prices reached 42 skudi per qantar, while a few weeks later they dropped to 30 skudi, the sudden fall having been worked up artificially by one of the bigger exporters of the seed. In contrast with last year's crop, the seed was fine in colour, and notwithstanding the lack of rain during the whole period of its growth, the grain was well developed. Moreover, there was no evidence of fungoid diseases or insect pests, and no traces of mildew. However the average production of 3.3 cwts. per acre, as compared with the average yield of 5.2 cwts. per acre during the preceding ten years was poor.

Cotton. The area under cotton for the year under review amounted to only 51 acres of which 15 acres were grown in Malta and 36 acres in Gozo with an estimated production of 12,748 lbs. of lint. The cultivation of cotton in these Islands has become a thing of the past, and there are no prospects of any near revival. The very low prices and over-production of this article in other countries are the two chief factors of the extermination of the cultivation of cotton in these Islands.

Grapes. The acreage under vineyards was returned at 1,944 acres which represents an increase of 110 acres on last year's 1,834 acres. The production was estimated at 62,305 cwts. as against last year's production of 45,590 cwts. The area of productive vines is around 1,653 acres. The average yield of 37.7 cwts, per acre, this year, was satisfactory, particularly after two successive dry winter seasons.

The total quantity of grapes available for the press was estimated at 60,000 cwts. (equivalent to 38,400 qantars), which at the rate of one "barile" and one "quartara" per qantar, should have yielded 48,000 "barili" of wine, or 456,000 Imperial gallons.

The prices of grapes, this year, left a good margin of profit to the farmer, the average price per cwt. being 8s/4d.

Citrus Fruits. The area under citrus-trees has remained the same as that of last year, viz: 194 acres. The crop was fairly good, the yield being estimated at 155,185 dozen, as against 142,970 dozen in the previous year. The local crop of citrus-fruits is not enough to meet local requirements, and, during the year under review, no less than 976,653 dozen, consisting of 847,470 dozen oranges, 92,774 dozen lemons, 32,860 dozen mandarines and 4,050 dozen grape-fruit were imported, chiefly from Sicily. Owing both to the abundant importation of citrus fruits from Sicily, consignments of which arrive almost daily, and to the dumping of bananas from the Canary Islands since the outbreak of the war in Spain, the prices of oranges and lemons were invariably low, although the genuine local produce always fetches better prices.

Other fruits. The returns under fruit trees amounted to 1,136 acres. There has been no change in the acreage from that of last year. The estimated yield amounted to 73,980 cwts. as against 71,648 cwts. in the preceding year. The campaign against the Fruit Fly (*Ceratitis capitata*, Wied.), has been kept up, this Department distributing 'Clensel', to serve as bait, free of charge.

Tobacco. Tobacco has been grown commercially for some years past but only on a limited scale. During the past season the total acreage planted in Malta and Gozo was estimated at 27½ acres, (Malta, 7 acres; Gozo, 20½ acres) the yield being estimated at 153 cwts.

The acreage planted has remained roughly constant during the past few years, and under present conditions there seems little likelihood of it increasing, unless the growers learned better methods of curing the tobacco leaf. Average prices this season were around £5 per qantar or £3. 4. 0 per cwt.

III. EXPORTS OF AGRICULTURAL PRODUCE.

The value of field and garden produce during the year was estimated at £664,178, consisting chiefly of potatoes (£160,704), onions (£15,042), other vegetables including tomatoes (£81,110), grapes (£25,960), melons (£11,644), other fruits (£36,245), wheat and barley (£130,898) and forage crops (£108,348). The value of locally produced meat, eggs and dairy produce was estimated as slightly over that of crops.

Of these £140,220 worth were exported.

The principal agricultural exports during the calendar year 1936 consisted of potatoes, onions and cumin seed. Details are given in the Report of the Controller of Agricultural exports (Appendix V page LXIV), while comparative values of agricultural and other exports are shown in graphic form in Table XIII.

IV TABLES.

The following is a list of tables attached to the Director's Report :—

Tables I and II — Revenue and Expenditure for the financial years 1935-36 and 1936-37.

Table III.— Monthly and total rainfall for the year 1936-37, as compared with that of 1935-36.

Table IV.— Acreage under different crops.

Table V.— Estimated quantities of agricultural produce.

Table VI.— Acreage and yields of the principal crops in 1937 as compared with the average acreages and yields during the preceding ten years.

Table VII.— Estimated values of crops grown in these Islands.

Table VIII.— Average prices of agricultural produce.

Table IX.— Police Returns of Livestock on the 31st December, 1936.

Table X.— Return of imported eggs.

Table XI.— Return of imported and locally produced meat consumed in these Islands.

Table XII.— Return of foodstuffs showing quantities imported and produced locally and the average yearly consumption per head of the population.

Table XIII.— Comparative values of exports of agricultural produce and other articles.

Table XIV.— Quantities and values of exports of agricultural produce.

Table I. Statement of actual revenue for 1936-37 as compared with the revenue for 1935-36.

Head and Item of Revenue.	1935-36			1936-37			Increase			Decrease		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
V. FEES OF OFFICE AND REIMBURSEMENTS												
A. Fees of Office.												
Agriculture.												
Certificates	102	10	0	119	15	0	17	5	0			
Miscellaneous Fees.												
Miscellaneous	37	5	10	—	—	—	—	—	—	37	5	10
B. Reimbursements.												
Sale of vegetables from Experimental Farm	520	6	4	412	3	6	—	—	—	108	2	10
Sale of trees, plants, &c. from public plantations	348	13	2	376	2	7½	27	9	5½			
Sale of fruit, &c., from S. Anton & Buskett Gardens	665	13	7	720	5	1	54	11	6			
Sale of chemicals, hire of spraying pumps, &c.	8	8	0	23	11	2	15	3	2			
Inspection of agricultural produce, &c. ...	210	9	10	325	3	9	114	13	11			
Sale of livestock from Experimental Farm ...	355	2	1	1,015	16	6	660	14	5			
Miscellaneous Reimbursements.												
Miscellaneous	56	13	4	251	7	5	194	14	1			
	2,305	2	2	3,244	5	0½	1,084	11	6½	145	8	8
XII. RECEIPTS UNDER THE WIDOWS & ORPHANS PENSIONS ACT, 1927.												
Contributions under the W.&O. Pens: Act, 1927	127	10	0	121	17	6	—	—	—	5	12	6
XIII. MISCELLANEOUS RECEIPTS.												
Miscellaneous	3	0	0	4	1	1	1	1	1	—	—	—

Table II. Statement of actual Expenditure for 1936-37 as compared with the expenditure for 1935-36.

Head & subheads of Expenditure	1935-36 £	s.	d.	1936-37 £	s.	d.	Increase £	s.	d.	Decrease £	s.	d.
I. ANNUAL EXPENDITURE.												
A. Personal Emoluments	10,023	10	3	10,582	9	0	558	18	9	—	—	—
B. Other Charges.												
Transport	468	19	3	479	15	4	10	16	1	—	—	—
Stationery, purchase of publications for reference library and cost of departmental publications	196	13	9	169	19	10	—	—	—	26	13	11
Water supply, lighting & electric current ...	26	14	9	34	11	2	7	16	5	—	—	—
Incidental expenses	} 87	19	10	46	17	7	} 50	9	0	—	—	—
Rent of telephones...				91	11	3						
Compilation of Statistics	146	0	3	99	0	3	—	—	—	47	—	—
Subsidy to the Agrarian Society, Malta ...	225	0	0	225	0	0	—	—	—	—	—	—
Towards the improvement of Agriculture £105												
Towards the upkeep of the Society's Experimental Farm £20												
Towards the holding of agricultural competitions... ... ... £77												
Towards encouraging the growing of vines & fruit trees £13												
For prizes to exhibitors of the best Malta mule-breeding donkeys £10												
Subsidy to the Board of Agriculture, Gozo...	200	0	0	208	0	0	8	0	0	—	—	—
Subsidy to the Horticultural Society ...	80	0	0	80	0	0	—	—	—	—	—	—
Subsidy to the M.S.P.C.A.	50	0	0	50	0	0	—	—	—	—	—	—
Subsidy to the Fur and Feather Association for holding Annual Shows	—	—	—	350	0	0	350	0	0	—	—	—
Subsidy to the Malta Horse Show	50	0	0	80	0	0	30	0	0	—	—	—
Subsidies and grants of beehives & appliances for the encouragement of modern apiculture	44	17	0	55	6	3	10	9	3	—	—	—
Contribution to the Colonial Agricultural Service Fund	25	0	0	25	0	0	—	—	—	—	—	—
Part contribution to the Imperial Bureaus of Agriculture, Entomology and Mycology...	113	0	0	150	0	0	37	0	0	—	—	—
Uniforms	17	1	3	27	13	3	10	12	0	—	—	—
Stamps and other expenses in connection with the Workmen's Compensation Ordinance	47	2	11	47	1	2	—	—	—	—	1	9
Expenses in connection with agricultural competitions	95	0	5	69	8	7	—	—	—	25	11	10
Expenses in connection with the Working of the Fertile Soil Ordinance of 1935 ...	671	16	1	612	19	0	—	—	—	58	17	1
Expenses in connection with Agricultural Parish Competitions	18	0	0	70	11	4	52	11	4	—	—	—
Expenses in connection with instructional visits of farmers to Experimental Farms...	88	18	11	53	15	8	—	—	—	35	3	3
Experimental Farms.												
Maintenance, &c. of Government stud farm and experimental farms	2,768	15	2	3,584	18	9	816	3	7	—	—	—
Purchase and distributions of seeds, fertilizers &c. in connection with demonstrations on private farms	118	10	8	16	8	3	—	—	—	102	2	5
Water, lighting and electric current	—	—	—	18	5	7	18	5	7	—	—	—
Animal Husbandry.												
Expenses in connection with the prevention of animal diseases	273	4	6	307	7	8	34	3	2	—	—	—
Premiums to breeders of licensed pedigree stock and other connected charges	361	14	0	867	18	6	506	4	6	—	—	—
Training of a student in Animal Husbandry in England	250	0	0	125	0	0	—	—	—	125	0	0
Plant Pathology.												
Purchase of chemicals and appliances and treatment of plant diseases	1,393	5	8	615	10	0	—	—	—	777	15	8
Rent of premises used as a store	15	0	0	—	—	—	—	—	—	15	0	0
Carried forward.	17,856	4	8	19,144	8	5	2,501	9	8	1,213	5	11

Table II. Statement of actual Expenditure for 1936-37 as compared with the expenditure for 1935-36.—*cont.*

Head & subheads of Expenditure	1935-36			1936-37			Increase			Decrease		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
B. Other Charges.—*cont.*												
Brought forward ...	17,856	4	8	19,144	8	5	2,501	9	8	1,213	5	11
Viticulture and Oenology.												
Maintenance of nurseries, &c., in Malta and Gozo	699	14	3	720	15	5	21	1	2	—	—	—
Training of one student in general Agriculture and Oenology	200	1	8	200	0	0	—	—	—	—	1	8
Maintenance of Experimental Vineyards in Malta and Gozo including premiums to growers	—	—	—	67	16	11	67	16	11	—	—	—
Expenses in connection with Oenology including maintenance of Laboratory	61	11	3	4	19	2	—	—	—	56	12	1
Technical instruction to young farmers in the American vine nurseries and at Buskett, in viticulture, and cultivation of fruit trees	—	—	—	48	12	3	48	12	3	—	—	—
Temporary allowance to the Oenologist for extra service in connection with Viticulture	—	—	—	80	0	0	80	0	0	—	—	—
Gardens and Plantations.												
Maintenance, &c. of Public gardens, nurseries and plantations..	3,428	16	2	2,932	2	3	—	—	—	496	13	11
Maintenance of Buskett Public Gardens ...	—	—	—	635	3	1	635	3	1	—	—	—
Maintenance, &c. of S. Antonio and Verdala Private Gardens.	331	1	2	248	9	6	—	—	—	82	11	8
Water supply to ditto and to vine nurseries	228	15	11	211	13	3	—	—	—	17	2	8
Planting trees in Malta & Gozo	248	15	8	594	11	1	345	15	5	—	—	—
Marketing.												
Expenses in connection with the export of Agricultural produce	472	5	0	248	16	9	—	—	—	223	8	3
Extraordinary Expenditure.												
Purchase of a new truck	—	—	—	246	0	0	246	0	0	—	—	—
Purchase of a motor cycle	—	—	—	38	14	0	38	14	0	—	—	—
Extending the Experimental Farm	998	16	3	497	14	1	—	—	—	501	2	2
Construction of a new manure platform and pit	—	—	—	59	5	7	59	5	7	—	—	—
Construction of poultry pens	—	—	—	545	15	0	545	15	0	—	—	—
Purchase of one electric syren	—	—	—	13	10	0	13	10	0	—	—	—
Purchase of a Centrifugal pump and 350 feet of piping	—	—	—	145	6	8	145	6	8	—	—	—
Purchase of incubators, brooders and other Poultry appliances for loan to breeders ...	—	—	—	89	15	4	89	15	4	—	—	—
Purchase of breeding stock for loan to farmers	940	0	5	264	0	8	—	—	—	675	19	9
Development of farm lands at Buskett ...	498	2	2	977	12	9½	479	10	7½	—	—	—
Planting trees in cowyards, pig and poultry pens	—	—	—	77	10	0	77	10	0	—	—	—
Providing portable wooden pig houses ...	—	—	—	157	5	9	157	5	9	—	—	—
Remodelling of farm buildings	—	—	—	125	3	3	125	3	3	—	—	—
Furniture	—	—	—	115	17	5	115	17	5	—	—	—
Farm Laboratory Equipment	40	7	6	3	2	7	—	—	—	37	4	11
Purchase of Farm implements	136	0	9	63	5	8	—	—	—	72	15	1
Expenses in connection with measures to be adopted for improving the supply of irrigation water	13	8	5	2	2	0	—	—	—	11	6	5
Laying distributory mains & electricity installation in the Government Experimental Farm	215	7	9	193	19	10	—	—	—	21	7	11
Expenses of a delegate to represent Malta in the 6th World Poultry Congress at Leipzig	—	—	—	45	0	0	45	0	0	—	—	—
Expenses for the utilization of water for irrigation purposes	—	—	—	22	3	5	22	3	5	—	—	—
Carried forward.	26,369	9	0	28,820	12	1½	5,860	15	6½	3,409	12	5

Table II. Statement of actual Expenditure for 1936-37 as compared with the expenditure for 1935-36.—*cont.*

Head & subhead of Expenditure	1935-36			1936-37			Increase			Decrease		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
B. Other Charges—*cont.*												
Brought forward ...	26,369	9	0	28,820	12	1½	5,860	15	6½	3,409	12	5
Extraordinary Expenditure.												
Training of a Student in Horticulture in England	—	—	—	150	0	0	150	0	0	—	—	—
Increasing the supply of irrigation water at Busket	16	6	9	—	—	—	—	—	—	16	6	9
Equipment of Oenotechnical Laboratory, including water and gas installations ...	23	15	11	—	—	—	—	—	—	23	15	11
Expenses in connection with the services of the Adviser in Agricultural Marketing ...	31	2	3	—	—	—	—	—	—	31	2	3
Purchase of a clock	5	5	0	—	—	—	—	—	—	5	5	0
Purchase of a motor sprinkler	410	10	0	—	—	—	—	—	—	410	10	0
Purchase of a duplicator	27	10	0	—	—	—	—	—	—	27	10	0
Construction of Government Stud Farm ...	18	10	10	—	—	—	—	—	—	18	10	10
Expenses in connection with the visit to London of a Government Delegate at the Imperial Entomological Conference ...	69	7	2	—	—	—	—	—	—	69	7	2
Furniture & other equipment for the Office of the Adviser in Animal Husbandry ...	38	7	5	—	—	—	—	—	—	38	7	5
Furniture for the Office of the Veterinary Pathologist	19	7	9	—	—	—	—	—	—	19	7	9
Training of a Poultryman in England ...	100	0	0	—	—	—	—	—	—	100	0	0
Total ...	27,129	12	1	28,970	12	1½	6,010	15	6½	4,169	15	6

TABLE III.

Table showing the monthly and total rainfall (in inches) for the year 1936-37 as compared with 1935-36.

Town or village	Sept 1936	Oct. 1936	Nov. 1936	Dec. 1936	Jan. 1937	Feb. 1937	March 1937	April 1937	May 1937	June 1937	Total Sept.-June 1936-37	Total Sept.-June 1935-36
	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
MALTA												
Argotti Botanic Gardens ...	0·24	1·91	7·64	3·44	2·06	2·87	0·62	0·63	0 38	...	19·79	13·59
Birkirkara	0·76	0·62	5·88	5·14	1·50	2 65	0·50	0·62	0·37	...	18·04	14 67
Birżebbuġa	0 30	0·69	5·73	4·16	1·88	2·85	0·70	0·35	0·30	...	14·96	7·1
Buskett Public Gardens ...	0·14	1·32	7·01	6·37	1·93	1·87	0·45	0·82	0·25	...	20·16	13·31
Cospicua	0·02	1·37	6·03	4·82	0·75	2·27	0·99	0·38	0·34	...	16·97	12 08
Dingli	1·02	1·44	6·61	5·57	1·86	2·10	0·31	0·92	0·11	...	19·94	8·58
Floriana	0·16	1·68	7·30	3·83	1·97	2·69	0·50	0·60	0 22	...	18·95	12·05
Gharghur	0·31	0·82	5 87	5 91	2·18	3 64	0·75	0·45	...	...	19·93	13·66
Ghaxaq	0·14	0·76	6·33	3·29	1·82	2·19	0·36	0·57	0·51	...	15·97	12·51
Gudja	...	...	5·45	...	...	2·18	0·53	0·54	0·49	...	9·19	10·76
Hamrun	0·19	0·70	6 92	3·93	1·91	1 84	0·40	0·65	0·31	...	16·85	12·57
Lija	0·29	0·93	6 10	4.84	2·07	2 79	0·69	0·68	0·37	...	18·76	15·40
Luqa	0·02	0·80	6·22	4·05	2·03	2·13	0 60	0.60	0 43	...	16 88	12·50
Mellieha	0·18	0.64	5·17	7·16	2·26	1·88	0·40	0·99	0·19	...	18·87	14·09
Mosta	0·47	1·17	6·97	5·33	2·35	2 78	0·67	0·69	0·43	...	20·86	14·15
Mqabba	0·03	0·78	8·02	3 42	1·93	2·31	0 50	0·30	0 36	...	17 65	10·66
Mdina	0·29	1·45	6·70	6·78	2·20	2·91	0 67	0·84	0·42	...	22·26	15·66
Msida	0·18	2·54	9·51	4·99	3·72	2 85	0·21	0·58	0·16	...	24 74	18·21
Naxxar	0·27	0 78	6·97	6·35	1·96	3·04	0·71	0·72	0·36	...	21·16	15·09
Qormi	...	1·26	5 99	4·21	1·93	2 17	0·65	0·61	0·29	...	17·11	14·48
Qrendi	0·30	1·41	7 17	4·08	1·98	2·79	0·65	0 98	0·71	...	20·07	12·82
Senglea	0·02	1·20	6·14	3·21	1·77	1·32	0·30	0·48	0·09	...	14·53	11·19
Siġġiewi	...	0·79	7·75	4·49	2·04	2·81	0·64	1·10	0·33	...	19·95	13·29
Sliema	0·29	1·30	7·20	4·11	2·08	2·51	0·56	0·69	0 30	...	19·04	15·64
San Antonio Gardens	0·31	1·05	6·10	4·77	2·00	2·78	0 60	0·54	...	...	18·15	14·30
St. Paul's Bay	0·20	0·82	4·73	6·13	2·10	1·82	0·45	0·64	0·23	...	17·12	12·95
Tarxien	0·07	0·67	6 12	3·62	1·91	2·34	0·55	0 60	0·37	...	16·25	11·24
Vittoriosa	...	1·60	7·13	3·14	1·83	1·76	0·84	0·25	...	...	16·55	12·54
Żabbar	0·04	0·98	8·23	4·51	2·27	2·39	0·88	0·60	0·70	...	20·60	15·76
Żebbuġ	0·48	1·42	7·20	4·65	2·06	2·92	0·62	0·89	0·40	...	20.64	15·52
Żejtun	0·05	0·81	5·89	4·38	1·96	2·39	0·50	0·49	0.37	...	16 84	11·63
Żurrieq	0·28	1 42	6·90	4·00	2·32	2·65	0·60	1·05	0·55	...	19·77	13·78
Mean	0·22	1·09	6 81	4·52	1·95	2·48	0·57	0·68	0·32	...	18·39	...
Corresponding mean last year ...	0·36	1·11	3 67	3·68	1·31	0 86	0·07	1·01	1·06	...	...	13·19
GOZO												
Għajnsielem	0·12	0·99	6·16	5·95	2·03	1·92	0·35	0·87	0·27	...	18·66	15·80
Għarb	0·10	0·32	3·94	4·74	1·56	1·87	0·36	0·57	0·19	...	13 65	11·57
Nadur	0·04	0·37	5·91	6·51	2·03	1·84	0·36	0·74	0·28	...	18·08	12·44
Qala	0·05	1·09	5·02	6·38	1·93	2·32	0·37	0·82	...	...	17 98	13·51
Sannat	0·09	0·53	6·17	5·77	2·56	1·56	0·49	0·74	0·35	...	18·26	14 36
Victoria	0·07	0·09	5·21	5·02	1·83	1·43	0 32	0·74	0·26	...	14·97	13·87
Xagħra	0·08	0·34	5·81	5 94	2·32	1·72	0·43	0·77	0·27	...	17·68	14·93
Xewkija	...	0·22	6·08	4·94	2·19	1·85	0·32	0·61	0·30	...	16·51	14·34
Żebbuġ	0·34	0·55	4·91	5·85	2·06	2·18	0 46	0·48	0·22	...	17·05	14·18
Kemmuna	0·08	1·50	4·57	5·85	1·44	1·17	0·30	0·69	0·13	...	15·73	12·32
Mean	0·09	0·60	5·37	5·69	1·99	1·78	0·37	0·70	0·22	...	16·85	...
Corresponding mean last year ...	0·10	0·98	5·56	2·62	1·84	0·71	0·08	0·75	0·80	..	...	13 73
Mean for Malta, Gozo and Kemmuna	0·19	0·98	6·47	4·80	1·96	2·31	0·52	0·68	0·30	...	18·02	...
Corresponding mean last year ...	0·30	1 08	4·12	3.43	1 44	0·82	0·07	0·96	0·08	...	...	13·32

TABLE IV.

Area of the various crops 1936-37.

	Locality	Nature of the crop and number of acres of land in each crop.														
		Wheat	Barley	Beans	Vetches	Potatoes	Onions	Cumin	Citrus fruits	Vines	Other fruits	Vegetables	Forages	Pasture	Total No. of acres in crop	No. of acres of uncultivated land
Valletta Dist.	Valletta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Floriana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Hamrun & Marsa ...	41	16	13	4	36	4	5	2	1	10	17	99	2	250	26
	Msida & Pietà ...	39	10	3	12	29	2	6	2	—	3	3	30	1	140	3
	Sliema	18	2	—	2	13	—	—	1	—	2	1	20	1	60	2
	St. Julians	62	17	6	16	48	2	6	2	1	8	2	58	2	230	10
Total Valletta District ...		160	45	22	34	126	8	17	7	2	23	23	207	6	680	41
East District	Senglea	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Cospicua	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Vittoriosa	1	1	2	1	3	—	—	—	—	1	1	2	—	12	3
	Żabbar & Kalkara ...	110	206	126	76	170	105	28	3	5	24	179	259	23	1,314	49
	Żejtun	159	138	141	110	161	111	67	4	3	12	84	266	11	1,317	20
	Marsaxlokk	106	97	38	18	94	62	45	—	3	14	27	226	14	744	24
	Tarxien & Pawla ...	123	101	73	37	115	78	51	3	14	22	58	196	3	874	12
	Luqa	106	91	76	43	124	84	53	4	5	23	47	236	4	896	24
	Mqabba	112	46	6	11	79	17	15	2	8	57	1	83	8	445	18
	Qrendi	155	100	8	18	119	23	14	2	4	38	3	138	20	642	90
	Żurrieq & Safi ...	491	337	21	40	221	42	21	5	16	43	8	423	32	1,700	69
	Gudja & Kirkop ...	162	131	49	38	173	75	50	2	8	20	19	253	18	998	42
	Birżebbuġa	206	193	67	27	194	106	62	1	18	18	29	277	46	1,244	80
	Għaxaq	91	95	47	12	80	72	60	1	2	13	20	107	10	610	48
Total East District ...		1,822	1,586	654	431	1,533	775	466	27	86	285	476	2,466	189	10,796	479
Central District	Naxxar Central ...	391	144	11	99	197	4	59	3	6	30	24	277	20	1,215	400
	Birkirkara and Sta. Venera	380	116	29	113	362	10	86	7	4	40	74	326	13	1,560	54
	Għargħur	201	86	10	50	97	4	40	1	5	28	21	143	22	708	240
	Mosta	124	31	4	29	103	2	16	15	10	17	1	94	19	460	75
	Lija & Balzan... ...	82	27	7	28	120	3	23	30	2	19	5	105	—	451	5
	Attard	217	74	11	61	164	32	51	17	10	8	26	200	2	873	24
	Żebbuġ...	226	69	70	38	239	66	94	12	24	47	147	332	6	1,370	21
	Qormi	193	120	44	51	227	24	42	10	2	44	155	321	14	1,247	18
Total Central District ...		1,814	667	186	469	1,509	145	411	90	63	233	453	1,798	96	7,934	837
West District	Mdina	378	7	35	67	121	18	8	1	51	17	95	288	10	1,096	6
	Rabat	851	105	108	260	393	91	12	6	148	40	293	593	20	2,920	343
	Dingli	217	40	34	102	107	37	3	2	48	25	68	169	23	875	210
	Siġġiewi	404	107	158	222	254	162	136	40	28	34	244	433	66	2,288	292
	Mġarr	703	239	47	170	316	30	73	1	67	30	42	402	98	2,218	172
	Mellieħa	698	52	110	316	332	10	—	2	74	54	185	380	43	2,236	216
	St. Paul's Bay ...	320	37	66	63	327	9	10	2	36	29	115	528	28	1,870	115
	Naxxar, West... ...	174	59	7	34	66	2	16	1	8	25	9	96	10	507	347
Total West District ...		4,045	626	565	1,234	1,916	359	258	55	460	254	1,051	2,889	298	14,010	1,701
Total Malta		7,841	2,924	1,427	2,168	5,084	1,287	1152	179	611	795	2,003	7,360	589	33,420	3,058
Gozo	Victoria (Gran Fontana)	143	203	38	36	50	13	16	1	118	26	45	195	6	890	24
	Kirċem	140	322	29	38	33	3	2	1	92	20	10	207	18	915	37
	San Lawrenz	135	127	16	17	19	6	1	—	17	13	5	187	11	554	27
	Għarb & Għasri ...	211	249	33	51	75	16	9	—	58	17	24	221	16	980	106
	Żebbuġ...	196	344	67	41	34	2	—	2	163	57	5	417	12	1,340	25
	Xagħra...	131	136	75	52	53	4	—	6	284	42	28	232	32	1,075	38
	Nadur	96	170	70	55	25	—	—	4	402	60	40	165	45	1,132	56
	Qala	82	158	51	39	17	—	—	—	137	51	12	215	8	770	30
	Għajnsielem & Kemmuna	145	225	44	30	42	1	1	1	29	30	11	251	40	850	76
	Xewkija	67	50	35	28	31	19	13	—	17	9	—	82	45	396	80
	Sannat & Munxar ...	228	171	46	50	35	8	26	—	16	16	—	220	98	914	94
Total, Gozo...		1,574	2,155	504	437	414	72	68	15	1333	341	180	2,392	331	9,816	593
Grand total		9,415	5,079	1,931	2,605	5,498	1,359	1220	194	1944	1,136	2,183	9,752	920	43,236	3,651

TABLE V.

Estimated Quantities of Agricultural Produce—1936-37.

	Locality	Nature of produce and quantity of each											
		Wheat Quarters	Barley Quarters	Beans Quarters	Vetches-seed Quarters	Potatoes Tons	Onions Tons	Cumin-seed Cwts	Citrus fruits Dozen	Grapes Cwts.	Other fruits Cwts.	Vegetables Cwts.	Forages 'Soma' or load of 10 bundles
Valletta Dist.	Valletta	—	—	—	—	—	—	—	—	—	—	—	—
	Floriana	—	—	—	—	—	—	—	—	—	—	—	—
	Hamrun & Marsa	174	88	55	12	144	24	17	1,610	23	650	1,241	3,945
	Msida & Pietà	156	55	14	35	146	11	20	1,585	—	195	204	1,074
	Sliema	72	10	—	6	52	—	—	770	—	130	69	720
	St. Julians'	253	94	26	51	185	13	21	1,595	25	520	136	2,200
Total Valletta District		655	247	95	104	497	48	58	5,560	48	1,495	1,650	7,939
East District	Senglea	—	—	—	—	—	—	—	—	—	—	—	—
	Cospicua	—	—	—	—	—	—	—	—	—	—	—	—
	Vittoriosa	4	5	9	6	10	—	—	—	—	55	70	76
	Żabbar & Kalkara	456	1,195	567	231	682	630	92	2,386	121	1,560	12,898	8,908
	Żejtun	642	1,090	634	338	647	659	221	3,192	73	780	6,046	9,177
	Marsaxlokk	438	563	171	56	579	372	148	—	72	910	1,944	8,499
	Tarxien & Paula	507	586	328	117	463	468	167	2,404	340	1,430	4,176	7,652
	Luqa	431	528	342	142	496	504	175	3,200	121	1,495	3,382	9,055
	Mqabba	460	267	25	39	311	103	50	1,605	194	3,705	71	2,743
	Qrendi	625	580	34	54	474	138	46	1,593	97	2,470	219	4,521
	Żurrieq & Safi	2,063	1,954	93	128	885	255	69	4,000	389	2,795	575	13,792
	Gudja & Kirkop	668	760	220	123	692	456	165	1,615	193	1,285	1,367	9,604
	Birżebbuġa	845	1,119	301	81	778	632	204	785	437	1,170	2,083	9,942
	Għaxaq	374	551	212	40	320	437	198	800	48	845	1,440	3,912
Total East District		7,513	9,198	2,936	1,355	6,137	4,654	1,535	21,580	2,085	18,495	34,271	87,881
Central District	Naxxar Central	1,682	850	47	316	782	22	195	2,390	146	1,950	1,725	13,946
	Birkirkara and Santa Venera	1,675	684	131	354	1,443	58	284	5,600	97	2,605	5,321	16,572
	Għargħur	854	508	45	172	381	23	132	805	121	1,820	1,506	7,184
	Mosta	558	183	18	93	410	14	53	8,005	243	1,105	71	4,759
	Lija & Balzan	369	154	32	88	475	17	76	24,025	48	1,235	365	5,196
	Attard	977	437	49	197	654	65	168	13,600	242	525	1,872	10,053
	Żebbuġ	981	406	315	130	956	210	310	9,610	583	3,060	10,731	17,333
	Qormi	858	468	198	169	907	146	139	7,985	47	2,875	11,315	17,140
Total Central District		7,934	3,695	835	1,519	6,008	555	1,357	72,020	1,527	15,175	32,906	92,183
West District	Mdina	1,701	42	148	215	602	108	26	790	1,248	1,120	6,935	14,780
	Rabat	3,829	630	460	858	1,954	546	40	4,780	3,596	2,605	21,389	30,910
	Dingli	868	249	145	326	527	215	10	1,595	1,166	1,625	4,896	8,800
	Siġġiewi	1,717	642	674	732	1,263	984	453	32,125	680	2,210	17,812	22,090
	Mgarr	3,163	1,434	198	561	1,551	180	241	780	1,628	1,955	3,024	20,670
	Mellieħa	2,966	192	472	1,043	1,635	57	—	1,575	1,798	3,510	13,320	11,045
	St. Paul's Bay	2,780	222	281	208	1,618	53	33	1,660	874	1,885	8,395	26,735
	Naxxar, West	983	344	29	112	316	16	54	805	194	1,625	648	4,910
Total West District		18,017	3,746	2,408	4,055	9,466	2,159	857	44,050	11,184	16,535	76,419	139,940
Total Malta		34,119	16,886	6,274	7,033	22,108	7,416	3,807	143,210	14,844	51,700	145,246	327,943
Gozo	Victoria (Gran Fontana)	608	1,035	171	119	206	78	53	800	4,214	1,690	3,195	9,788
	Kercem	595	1,634	130	125	132	16	7	790	3,316	1,315	710	10,388
	San Lawrenz	574	1,337	72	56	78	37	3	—	562	845	355	9,387
	Għarb & Għasri	807	1,271	148	168	305	85	30	—	2,062	1,120	1,704	11,106
	Żebbuġ	833	1,735	297	134	134	12	—	1,585	5,737	3,715	350	20,911
	Xagħra	557	689	336	170	217	24	—	4,800	10,125	2,750	1,988	11,725
	Nadur	408	854	315	182	108	—	—	3,195	14,731	3,900	2,840	8,392
	Qala	349	799	229	126	69	—	—	—	4,875	3,315	852	10,852
	Għajnsielem & Kemmuna	617	1,147	194	97	166	6	4	805	938	1,945	781	12,602
	Xewkija	285	253	157	91	123	114	43	—	413	585	—	4,120
	Sannat & Munxar	969	875	203	163	140	43	86	—	488	1,040	—	11,024
Total, Gozo		6,692	11,629	2,252	1,431	1,678	415	226	11,975	47,461	22,280	12,775	120,395
Grand total		40,811	28,515	8,526	8,464	23,786	7,831	4,033	155,185	62,305	73,980	158,021	448,338

TABLE VI.

Acreages and yields of the principal crops in 1937 as compared with the average acreages and yields during the preceding ten years.

Crop	Total Acreage 1937	Average acreage preceding ten years	Total Yield 1937	Yield per acre, 1937	Average yield per acre preceding ten years
Wheat	9,415	9,367	40,811 qrs.	4.3 qrs.	3.7 qrs.
Barley	5,079	5,975	28,515 qrs.	5.6 qrs.	4.9 qrs.
Beans	1,931	1,670	8,526 qrs.	4.4 qrs.	4.2 qrs.
Vetches...	2,605	2,496	8,464 qrs.	3.2 qrs.	*2.4 qrs.
Spring Potatoes	5,498	4,441	23,786 tons	4.3 tons	3.7 tons
Onions	1,359	1,176	7,831 tons	5.8 tons	7.2 tons
Cumin Seed	1,220	1,579	4,033 cwts.	3.3 cwts.	5.2 cwts.
Citrus Fruits	194	189	155,185 dozen	705.8 dozen	798.5 dozen
Grapes	†1,944	1,749	62,205 cwts.	37.7 cwts.	60.5 cwts.
Other Fruits	1,136	1,067	73,980 cwts.	65.1 cwts.	68.6 cwts.
Vegetables	2,183	2,189	158,021 cwts.	72.3 cwts.	79.8 cwts.
Forages (excluding vetches)	9,752	9,696	448,338 "some"	40.6 "some"	57.0 "some"

NOTE:—* Average yield for 1934, 1935 and 1936. Yields before 1934 not available in qrs: since then recorded as "some" (loads).
† Includes 291 acres of non-productive young plantings.

TABLE VII.

Estimated values of Crops grown in these Islands during 1935-36 and 1936-37.

	1935 1936									936-1937								
				£	s.	d.		£	s.	d.				£	s.	d.		£	s.	d.
Wheat	29,151	qrs.	@	2	1	8	=	61,356	5	0	40,811	qrs.	@	2	5	0	=	91,824	15	0
Meslin or "Mischiato"	6,940	,,	,,	1	10	0	=	10,410	0	0	9,953	,,	,,	1	15	0	=	17,417	15	0
Barley	13,776	,,	,,	1	0	0	=	13,776	0	0	18,562	,,	,,	1	3	4	=	21,655	13	4
Straw (Wheat and Meslin) ...	211,000	nets	,,		2	6	=	26,375	0	0	294,300	nets	,,		3	0	=	44,145	0	0
Straw (Barley)	194,700	"some"	,,		1	3	=	12,168	15	0	252,405	"some"	,,		1	1	=	14,213	6	8
Beans	5,685	qrs.	,,	2	10	0	=	14,212	10	0	8,526	qrs.	,,	2	0	0	=	17,052	0	0
Vetches	4,274	,,	,,	2	0	0	=	8,548	0	0	8,464	,,	,,	2	11	8	=	21,865	6	8
Potatoes (Winter)	10,950	tons	,,	5	6	8	=	58,400	0	0	8,170	tons	,,	4	5	4	=	34,884	15	4
Potatoes (Spring)	12,490	,,	,,	8	0	0	=	99,920	0	0	23,786	,,	,,	4	16	0	=	114,172	16	0
Potatoes (Summer)	2,025	,,	,,	8	10	0	=	17,212	10	0	1,732	,,	,,	6	14	6	=	11,647	14	0
Onions	8,036	,,	,,	2	13	1	=	21,429	0	8	7,831	,,	,,	1	18	5	=	15,0[illegible]2	1	0
Cumin-seed	5,912	cwts.	,,	1	8	9	=	8,498	10	0	4,033	cwts.	,,	1	15	2	=	7,091	7	2
Citrus fruits	112,970	dozen	,,			9	=	5,361	7	6	155,185	dozen	,,			6	=	3,879	12	6
Grapes	45,594	cwts.	,,		7	0	=	15,957	18	0	62,305	cwts.	,,		8	1	=	25,960	8	4
Other fruits	71,648	,,	,,		9	0	=	32,241	12	0	73,980	,,	,,		8	9	=	32,366	5	0
Cotton lint	12,748	lbs.	,,			5	=	265	11	8	11,060	lbs.	,,			$5\frac{10}{12}$	=	268	16	$4\frac{1}{2}$
Cotton seed	335	cwts.	,,		8	4	=	139	11	8	226	cwts.	,,		8	6	=	96	1	0
Vegetables	144,607	,,	,,		9	3	=	66,880	14	9	158,021	,,	,,		9	1	=	71,767	17	5
Tomatoes...	28,336	,,	,,		3	$8\frac{1}{2}$	=	5,253	19	4	52,760	,,	,,		3	$6\frac{1}{2}$	=	9,312	18	4
Forages	322,605	"some"	,,		5	0	=	80,651	5	0	448,338	"some"	,,		4	10	=	108,348	7	0
Maize	798	qrs.	,,	1	2	0	=	877	16	0	541	qrs.	,,	1	4	0	=	649	4	0
Melons and Water Melons ...	32,814	cwts.	,,		6	6	=	10,664	11	0	38,814	cwts.	,,		6	0	=	11,644	4	0
Tobacco	—	,,	,,	—	—	—		—	—	—	153	,,	,,	3	4	0	=	489	12	0
								£570,601	3	7								£675,825	16	$1\frac{1}{2}$

TABLE VIII.

Average prices of Agricultural Produce during 1935-36 and 1936-37.

	1935-36.				1936-37.				
	£	s.	d.		£	s.	d.		
Wheat	1	15	0	to	2	5	0	per quarter.	
Barley		16	8	„	1	1	8	do.	
Meslin	1	7	6	„	1	18	4	do.	
Beans	2	8	4	„	2	15	0	do.	
Common Vetch	2	0	0	„	—	—	—	do.	
Chickling Vetch	2	10	0	„	—	—	—	do.	
Bitter Vetch	1	16	8	„	—	—	—	do.	
Spring and Summer Potatoes	6	8	0	„	11	4	0	per ton.	
Winter Potatoes	4	16	0	„	8	10	0	do.	
Onions	2	5	0	„	4	16	0	do.	
Cumin seed	1	4	6	„	1	9	10	per cwt.	
Citrus Fruits			6	„		1	6	per dozen.	
Grapes		6	5	„		9	1	per cwt.	
Figs (fresh)		2	6	„		5	3	do.	
Prickly Pears		2	3	„		4	6	do.	
Other Fruits		7	9	„		15	0	do.	
Vegetables		5	10	„		14	8	do.	
Cotton			5	„	—	—	—	per lb.	
Forages...		2	6	„		6	6	per load of 10 bundles.	
Wheat-straw		2	6	„	—	—	—	per net.	
Barley-straw		1	2	„		1	4	per load of 10 bundles.	
Firewood, thick		8	0	„		9	0	per pesata of 300 rt.	
Firewood, in bundles ...		2	0	„		2	3	per load of 10 bundles.	
Goat's milk		1	9	„		2	2	per gallon.	
Cow's milk		2	8	„		2	10	do.	
Wine (common)		1	5	„		2	1½	do.	
Cheese			10½	„		1	4	per lb.	
Cheese (fresh)			4	„			6	do.	
Beef			10¼	„		1	1½	do.	
Pork			10	„		1	0½	do.	
Mutton			9¼	„			10½	do.	
Lamb			9¼	„			10½	do.	
Eggs			7½	„		2	3		
Poultry		1	8	„		5	0	per head.	
Rabbits		1	5	„		2	6	do.	

	1936-37.							
	£	s.	d.		£	s.	d.	
Wheat	2	0	0	to	2	10	0	per quarter.
Barley	1	1	8	„	1	8	4	do.
Meslin	1	10	0	„	2	0	0	do.
Beans	1	16	8	„	2	5	0	do.
Common Vetch	1	16	8	„	2	3	4	do.
Chickling Vetch	2	0	0	„	2	5	0	do.
Bitter Vetch	1	18	4	„	2	3	4	do.
Spring and Summer Potatoes	2	17	8	„	8	10	8	per ton.
Winter Potatoes	4	5	4	„	4	16	0	do.
Onions	1	8	6	„	2	11	2	do.
Cumin seed	1	5	8	„	2	4	9	per cwt.
Citrus Fruits			4	„			9	per dozen.
Grapes		6	5	„		10	3	per cwt.
Figs (fresh)		2	6	„		5	5	do.
Prickly Pears		2	3	„		4	8	do.
Other Fruits		7	6	„		14	6	do.
Vegetables		5	6	„		14	0	do.
Cotton			5	„			6	per lb.
Forages...		2	6	„		6	0	per load of 10 bundles.
Wheat-straw		2	6	„		3	6	per net.
Barley-straw		1	0	„		1	3	per load of 10 bundles.
Firewood, thick		7	0	„		9	0	per pesata of 300 rt.
Firewood, in bundles ...		2	0	„		2	6	per load of 10 bundles.
Goat's milk		1	9	„		2	2	per gallon.
Cow's milk		2	8	„	—	2	10	do.
Wine (common)		1	6	„		2	3	do.
Cheese			10½	„		1	4	per lb.
Cheese (fresh)			4	„			6	do.
Beef			10¼	„		1	2½	do.
Pork			10	„		1	1½	do.
Mutton			9¼	„			10½	do.
Lamb			9¼	„			10½	do.
Eggs			8	„		2	0	per dozen.
Poultry		1	6	„		5	0	per head.
Rabbits		1	6	„		2	6	do.

TABLE IX.

Police returns of Livestock on the 31st. December, 1936, as compared with the returns on the 31st. December, 1935.

Livestock	31st. December, 1936			31st. December, 1935		
	Malta	Gozo	Total	Malta	Gozo	Total
Cattle:—						
Maltese breed ...	960	608	1,568	1,142	340	1,482
Foreign breeds ...	1,909	346	2,255	1,980	967	2,947
Swines:—						
Goats	25,848	7,859	33,707	21,807	7,903	29,710
Sheep	9,153	5,877	15,030	9,908	5,935	15,843
Pigs	4,451	1,156	5,607	5,946	1,019	6,965
Donkeys:—						
Maltese breed ...	75	29	104	73	28	101
Foreign breeds ...	2,397	1,019	3,416	2,476	986	3,462
Horses	177	62	239	187	91	278
Mules	2,344	486	2,830	2,331	518	2,849

TABLE X. Return showing the Quantities and Value of Eggs imported into Malta during the five years ended 31st December, 1936.

Countries of origin	1932		1933		1934		1935		1936		Total Imports		Average Yearly Imports	
	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
	Dozen	£	Dozen	£	Dozen	£	Dozen	£	Dozen	£	Dozen	£	Dozen	£
Egypt	240,260	7,345	357,260	8,085	411,960	9,396	474,190	11,167	759,138	17,676	2,242,808	53,619	448,561·6	10,723·8
Morocco	3,600	225	...	...	...	...	...	...	...	...	3,600	225	720	45
Syria	4,500	90	...	...	5,600	175	5,700	233	11,400	320	27,200	818	5,440	163·6
Italy	97,800	2,985	63,900	1,427	...	...	...	...	...	...	161,700	4,412	32,340	882·4
Libya	26,470	1,395	23,640	953	20,972	821	3,440	176	...	...	74,522	3,345	14,904·4	669
Belgium	8,920	466	...	...	...	...	...	...	3,000	162	11,920	628	2,384	125·6
Greece	...	.	...	...	...	...	...	...	...	...	...	...	...	...
Scala Nuova ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Turkey	46,735	1,593	72,520	2,892	192,150	6,296	62,880	2,267	39,240	1,515	413,525	14,563	82,705	2,912·6
United Kingdom	8	3	42	21	26	28	...	...	8	4	84	56	16·8	11·2
Bulgaria	100	4	3,360	133	8,520	257	...	...	...	...	11,980	394	2,396	78·8
Spain	6,000	100	...	...	...	...	...	...	...	...	6,000	100	1,200	20·0
Albania	...	...	35,760	1,487	95,794	2,629	52,260	2,023	32,280	1,390	216,094	7,529	43,218·8	1,505·8
Yugo-Slavia ...	...	...	103,280	3,697	17,460	454	25,140	668	34,560	1,483	180,440	6,302	36,088	1,260·4
Denmark ...	...	...	...	..	1,500	87	4,800	202	...	...	6,300	289	1,260	57·8
Netherlands ...	...	...	...	...	6,000	302	...	...	...	...	6,000	302	1,200	60·4
Poland	...	...	...	...	6,300	380	...	...	...	...	6,300	380	1,260	76
Lithuania ...	...	...	...	...	...	...	300	10	...	...	300	10	60	2
Cyprus	...	..	...	...	...	...	...	...	2,160	106	2,160	106	432	21·2
Total ...	434,393	11,206	659,762	18,645	766,282	20,825	628,710	16,746	881,786	22,656	3,370,933	93,078	674,186·6	18,615·6

N.B. The marking of imported eggs was started on the 15th August 1933, in terms of Act No. XXX of 1933.

TABLE XI.—Showing the average yearly consumption of meat per head of the population

Details	Population	Beef			Pork			Mutton (Including goat meat)		
	No.	Imported for home consumption	Domestic Produce	Consumption	Imported for home consumption	Domestic Produce	Consumption	Imported for home consumption	Domestic Produce	Consumption
		cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.
FIRST PERIOD:—										
1921	215,459	28,346	7,919	33,365	3,032	14,720	17,752	522	1,952	2,474
1922	218,510	32,330	14,396	46,726	1,824	15,736	17,557	806	2,741	3,547
1923	220,060	33,294	11,241	44,535	351	13,492	13,843	340	4,009	4,349
1924	223,088	32,208	3,225	35,433	1,213	13,819	15,032	746	3,921	4,667
1925	225,242	32,323	8,074	40,397	2,246	25,882	28,128	807	3,475	4,282
Total	1,102,339	158,501	44,855	203,453	8,668	83,649	92,312	3,221	16,098	19,319
Yearly average	... ...	31,700·2	8,971	40,691·2	1,732·6	16,729·8	18,462·4	644·2	3,219·6	3,863·8
Average population	220,468	...	...	...	...	...	...	...	...	...
Average yearly consumption per head of the population ...	... ...	...	...	lbs. 20·67	...	...	lbs. 9·37	...	...	lbs. 1·96
SECOND PERIOD:—										
1931	244,002	35,031	30,943	65,974	277	28,604	28,881	277	3,909	4,286
1932	248,062	38,020	28,537	66,557	3,565	22,149	25,714	934	3,278	4,212
1933	251,832	44,757	41,919	86,676	3,700	22,556	26,256	1,334	3,431	4,765
1934	255,185	43,833	43,178	87,011	2,107	22,160	24,267	194	5,447	5,641
1935	256,140	43,080	41,783	84,863	1,180	33,048	34,228	157	4,740	4,897
Total	1,255,221	204,721	186,360	391,081	10,829	128,517	139,346	2,896	20,795	23,701
Yearly average	... ...	40,944·2	37,272	78,216·2	2,165·8	25,703·4	27,869·2	579·2	4,159	4,740·2
Average population	251,044	...	...	...	...	...	...	...	...	...
Average yearly consumption per head of the population ...	... ...	...	...	lbs. 34·89	...	...	lbs. 12·43	...	...	lbs. 2·11
THIRD PERIOD:—										
1936	262,165	42,647	58,907	101,554	...	22,085	22,085	178	4,247	6,609

All figures in this return were calculated from Customs and Civil Abattoirs returns, except local poultry which has been estimated from figures of slaughterings in the Valletta Market.

The first column under "Beef" represents the meat yield of bullocks, imported mostly in a lean condition to be fattened in Malta, estimating the meat value as equal to 50 per cent. of live weight; while the second column, gives locally bred beef plus local increase on imported stores. The same remarks apply to "pork" and "mutton".

in lbs. for the two Quinquennial periods 1921-1925; 1931-1935 and the year 1936.

Bacon and Ham		Lamb and Kid		Tinned and potted meat		Dressed Poultry and Game			Horse Flesh (Imported adult Horses)	Other Meats	Total Consumption
Imported for home consumption	Consumption	Domestic Produce	Consumption	Imported for home consumption	Consumption	Imported for home consumption	Domestic Produce	Consumption	Consumption	Consumption	
cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.
2,682	2,682	877	875	—	—	13	8,697	8,710	932	1,846	71,638
4,584	4,584	1,086	1,086	—	—	23	8,937	8,960	1,125	3,035	86,620
4,530	4,530	1,115	1,115	3,973	3,973	47	9,163	9,210	1,415	1,272	84,242
4,087	4,087	1,122	1,122	2,939	2,939	43	9,417	9,460	3,014	1,297	77,051
4,137	4,137	858	858	2,833	2,833	82	9,628	9,710	3,112	1,445	94,902
20,020	20,020	5,058	5,058	9,745	9,745	208	45,842	46,050	9,598	8,895	414,453
4,004	4,004	1,011·6	1,011·6	3,248	3,248	41·6	9,168·4	9,210	1,919·6	1,779	82,890·6
...	...	...	...	...	...	...	...	...	...	...	...
...	lbs. 2·03	...	lbs. 0·51	...	lbs. 1·65	...	...	lbs. 4·66	lbs. 0·97	lbs. 0·90	lbs. 42·10
5,373	5,373	1,250	1,250	4,310	4,310	254	—	—	1,786	5,255	128,225
6,655	6,655	1,402	1,402	5,161	5,161	205	10,775	10,980	1,729	3,046	125,456
6,573	6,573	1,399	1,399	6,615	6,615	143	11,301	11,444	1,800	3,332	148,860
10,571	10,571	1,202	1,202	7,726	7,726	763	11,793	12,556	1,729	4,158	154,861
10,461	10,461	1,102	1,102	6,255	6,255	438	11,522	11,960	1,786	2,804	158,356
39,633	39,633	6,355	6,355	30,067	30,067	1,803	56,347	58,150	8,830	18,595	715,758
7,926·6	7,926·6	1,271	1,271	6,013·4	6,013·4	360·6	11,269·4	11,630	1,766	3,719	143,151·6
...	...	...	...	...	...	...	...	...	...	...	...
...	lbs. 3·53	...	lbs. 0·56	...	lbs. 2·68	...	...	lbs. 5·19	lbs. 0·78	lbs. 1·65	lbs. 63·86
11,372	11,372	1,060	1,060	5,981	5,981	...	...	...	1,767	2,131	...

Figures for bacon and ham for 1933 onwards include sausages and other meat products, except meat pastes, and salted meat.

Horseflesh. Almost all from old and condemned horses mostly imported.

Local game and rabbits are not included in this return. Figures for dressed poultry and game include imported frozen rabbits. Imported frozen beef, mutton and pork, for the year 1931 are included under "Other meats".

TABLE XII. Return of foodstuffs imported and produced locally and

Foodstuffs	Unit	Average Population for quinquennial period 1922-26—222,867							
		Domestic Produce	Domestic Produce Exported	Consumption	Imported for home consumption	Domestic Produce	Domestic Produce Exported	Consumption	Average yearly consumption per head of the population
Butter	Cwts.	... ...	... ...	21,050	4,210	—	—	4,210	2·1 lbs.
Butter substitutes (including margarine)	„	... ...	... ...	41,435	8,287	—	—	8,287	4·1 lbs.
Cheese	„	201,487	3,161	253,061	10,947	40,297·4	632·2	50,612·2	25·4 lbs.
Eggs	Dozen	18,200,000	—	18,414,560	42,912	3,640,000	—	3,682,912	16·5 doz.
Lard	Cwts.	... ...	... ...	68,635	13,727	—	—	13,727	6·8 lbs.
Lard substitute	„	... ...	... ...	... ...	... ...	... ...	... ...	... ...	...
Oils (edible)	Galls.	... ...	... ...	1,472,768	294,554	—	—	294,554	10·5 pts.
Potatoes for table use ...	Cwts	2,136,380	1,095,621	1,278,716	47,591	427,276	219,124·2	25,573·2	128·5
Sugar	„	... ...	... ...	581,934	116,387	—	—	116,387	58·4 lbs.
Flour	„	... ...	... ...	1,373,945	274,789	—	—	274,789	138 lbs.
Wheat	„	764,812	—	3,068,652	460,768	152,962·4	—	613,730·4	308·4 lbs.
Fish	„	106,538	—	207,881	20,268	21,307	—	41,575	20·8 lbs.
Fruits	„	889,543	1,373	1,143,552	50,527·2	177,908·6	274·6	228,161	114·8 lbs.
Milk	Galls.	7,180,480	—	11,176,235	799,151	1,436,096	—	2,235,247	10 glls.
Vegetables	Cwts.	614,865	1,023	618,378	907·2	122,973	204·6	123,675·6	62·2 lbs.
Onions	„	658,420	249,016	412,621	643·4	131,684	49,803·2	82,524·2	41·4 lbs.

the yearly average consumption per head of the population.

AVERAGE POPULATION FOR QUINQUENNIAL PERIOD **1932-36—254,676.**

Imported for home consumption	Domestic Produce	Domestic Produce Exported	Consumption	Imported for home consumption	Domestic Produce	Domestic Produce Exported	Consumption	Average yearly consumption per head of the population
40,793	—	—	40,793	8,159	—	—	8,159	3·5 lbs.
60,701	—	—	60,701	12,140	—	—	12,140	5·3 lbs.
71,125	173,571	26	244,670	14,225	34,714·2	5·2	48,934	21·5 lbs.
3,371,263	26,000,000	4,060	29,367,203	674,252.6	5,200,000	812	5,873,440·6	23·0 doz.
87,284	—	—	87,284	17,457	—	—	17,457	7·6 lbs.
15,121	—	—	15,121	3,024	—	—	3,024	1·3 lbs.
2,136,503	—	—	2,136,503	427,301	—	—	427,301	13·4 pts.
325,204	2,328,110	1,070,840	1,582,474	65,041	465,622	214,168	316,494·8	139·2 lbs.
901,163	—	—	901,163	180,233	—	—	180,233	79·2 lbs.
1,086,413	—	—	1,086,413	217,283	—	—	217,283	95·5 lbs.
3,045,860	748,523	—	3,794,383	609,172	149,704·6	—	758,876·6	333·7 lbs.
967,931	98,688	—	1,066,619	19,358	19,738	—	39,096	17·2 lbs.
261,780	965,013	678	1,227,471	52,356	193,002·6	135·6	245,223	107·9 lbs.
6,072,018	8,181,640	—	14,253,658	1,214,403·6	1,636,328	—	2,850,731·6	11·1 gls.
42,507	1,259,454	265	1,301,696	8,501·4	251,890·8	53	260,339·2	114·4 lbs.
12,845	769,460	181,116	601,189	69	153,892	36,223·2	120,237·8	52·9 lbs.

TABLE XIII.

Diagram showing relation between "Agricultural Exports" and "All other Exports", for the years 1929-1936.

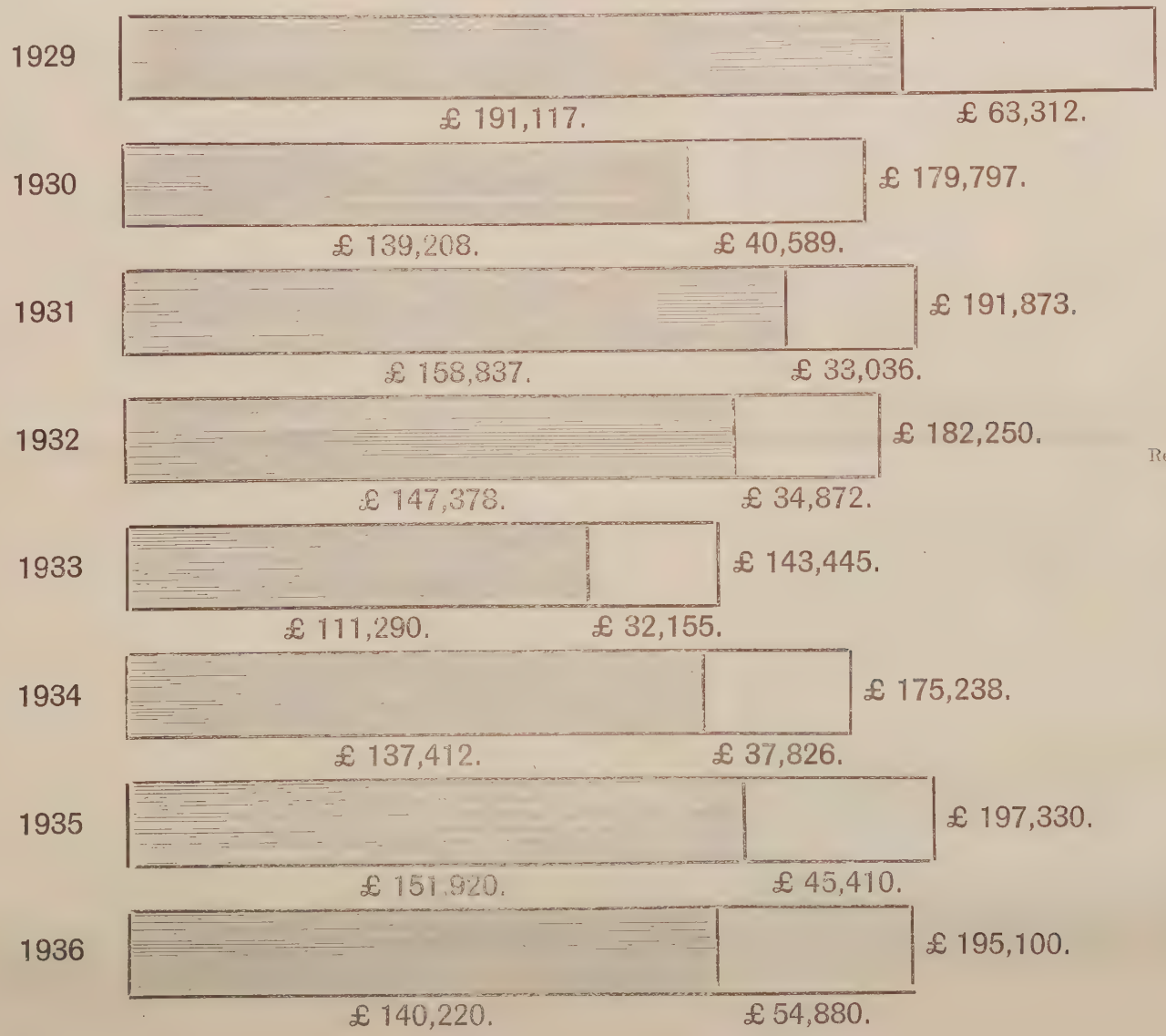

TABLE XIV. Return showing Quantities and Values of Agricultural Exports during the years 1931-36.

Article	Country of Final Destination		1931		1932		1933		1934		1935		1936	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
				£		£		£		£		£		£
Animals living:—														
Fowls Poultry	Libya	No.	...	...	...	...	...	...	...	...	...	...	...	...
Sheep and Swine	Tunis	„	...	...	...	...	3	4	...	...	...	...	...	...
Cheese	Tunis	Cwts.	24	60	1	3	4	13	11	16	6	49	...	...
	Italy	„	...	...	...	...	...	...	2	5	...	...	...	...
	Libya	„	...	...	...	...	...	...	2	6	...	...	...	...
	Total ...	... ...	24	60	1	3	4	13	15	27	6	49	...	...
Eggs	United Kingdom...	Doz.	...	...	3,300	135	100	5	...	...	...	...	...	...
	Italy	„	...	...	60	3	...	...	...	...	...	...	...	...
	H. M. Ship's Stores	„	...	...	...	...	...	...	...	...	...	...	600	42
	Total ...	... ...	...	...	3,360	138	100	5	...	...	...	...	600	42
Fruits (fresh or dried):—														
Oranges and Mandarines	United Kingdom...	Doz.	1,324	82	1,209	91	6,492	234	1,877	126	1,814	143	1,805	131
	France	„	...	...	...	...	...	...	...	...	...	...	12	1
	Tunis	„	...	...	...	...	...	...	600	24	...	...	...	...
	Germany	„	...	...	...	...	...	...	...	...	...	...	20	1
	Total ...	... ...	1,324	82	1,209	91	6,492	234	2,477	150	1,814	143	1,837	133
Grapes	United Kingdom...	Cwts.	...	...	...	...	...	...	...	...	5	14	...	...
Melons	United Kingdom...	„	...	...	...	...	...	...	...	...	105	38	...	...
	Libya	„	...	...	...	...	...	...	...	...	34	10	...	...
	Total ...	... ...	...	...	...	...	...	...	...	...	139	48	...	...
Other fruits	Italy	Value	...	90	...	...	...	...	...	180	...	...	...	...
	Libya	„	...	...	...	...	...	...	...	51	...	...	...	...
	Tunis	„	...	42	...	...	...	...	...	111	...	...	...	34
	United Kingdom...	„	...	...	...	93	...	...	...	...	...	45	...	...
	Greece	„	...	...	...	...	...	...	...	...	...	66	...	...
	Turkey	„	...	...	...	...	...	...	...	...	...	128	...	...
	Egpyt	„	...	...	...	...	...	...	...	...	...	...	...	71
	Palestine	„	...	...	...	...	...	...	...	...	...	...	...	17
	Total ...	... ...	...	132	...	93	..	...	...	342	...	239	...	125
Pulse:—														
Kidney Beans...	Belgium	Cwts.	...	...	...	...	118	60	...	...	...	...	...	...
Tomato Sauce and extracts of tomatoes	Italy	„	...	...	...	...	...	...	...	...	148	148	...	...
	Tunis	„	6	8	...	...	...	...	292	280	...	...	...	...
	Brazil	„	...	...	...	...	...	...	...	...	...	...	...	...
	Spain	„	...	...	...	...	...	...	...	...	...	...	...	...
	Ceylon	„	2	3	..	...	...	...	...	...	...	...	...	...
	Cyprus	„	...	...	438	370	40	40	...	...	160	145	145	125
	Kenya	„	...	...	...	...	...	...	7	20	...	...	...	...
	Egypt	„	...	...	...	...	...	...	...	...	6	7	...	...
	Total ...	... ...	8	11	438	370	40	40	299	300	314	300	145	125

TABLE XIV.— *cont.*

Return showing Quantities and Values of Agricultural Exports during the years 1931-36.

Article	Country of Final Destination		1931		1932		1933		1934		1935		1936	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
				£		£		£		£		£		£
Tomatoes (tinned)	United Kingdom...	Cwts.	...	...	...	...	...	...	...	...	307	212	...	...
Vegetables:—														
Garlic	Tunis	,,	...	...	18	9	87	39	...	...	...	...	...	...
	Libya	,,	...	...	...	...	...	...	20	3	...	...	...	...
	United Kingdom ...	,,	...	...	120	70	...	...	...	...	...	...	...	...
	Belgium	,,	...	...	10	5	...	...	...	...	...	...	...	...
	Total ...	... ...	...	...	148	84	87	39	20	3	...	...	...	...
Onions	United Kingdom...	Cwts.	7,096	1,442	12,498	3,064	2,510	414	1,526	212	1,130	295	19,710	4,508
	Austria	,,	...	...	...	...	...	...	...	...	...	...	...	...
	Belgium	,,	1,326	400	1,027	442	3,055	132	...	...	809	263	7,560	1,803
	Denmark	,,	94	25	...	...	...	...	...	...	...	...	...	...
	Germany	,,	...	...	...	...	...	...	195	28	...	...	...	...
	Italy	,,	380	175	8,267	2,018	...	...	400	45	...	...	...	...
	Libya	,,	590	129	130	27	867	162	2,290	307	325	57	146	56
	Netherlands ...	,,	15,296	3,618	42,084	7,846	13,672	1,027	16,981	1,882	1,134	326	9,266	2,368
	Norway	,,	316	82	841	186	452	88	1,860	302	2,544	897	7,098	2,104
	Sweden	,,	...	...	...	...	...	...	5,271	736	5,934	1,928	2,660	760
	Tunis	,,	3,812	913	3,447	872	3,281	537	170	20	246	30	...	...
	Ceylon	,,	...	...	...	...	...	...	416	83	...	...	...	...
	Palestine	,,	...	...	...	...	...	...	40	9	...	...	...	...
	Egypt	,,	...	...	...	...	...	...	60	10	...	...	...	...
	Morocco	,,	...	...	...	...	...	...	400	68	...	...	...	...
	Switzerland ...	,,	...	...	...	...	...	...	500	42	200	44	...	...
	Aden	,,	...	...	...	...	...	...	...	...	114	23	...	...
	Total ...	... ...	28,910	6,784	68,294	14,455	23,837	2,360	30,109	3,744	2,436	3,863	46,440	11,599
Potatoes	United Kingdom...	Tons.	496	5,172	1,448	14,701	648	6,842	1,457	12,052	1,496	18,700	1,637	16,714
	Belgium	,,	164	1,520	310	3,612	665	3,938	948	9,848	820	8,640	3,312	25,714
	Germany	,,	604	6,010	538	6,174	342	2,236	222	2,164	70	1,407	...	...
	Hungary	,,	...	...	...	...	...	...	...	...	...	...	...	...
	Italy	,,	300	3,714	296	3,581	169	1,666	204	2,436	168	3,175	...	...
	Netherlands ...	,,	7,604	78,792	6,619	67,731	7,140	58,604	8,797	73,944	6,294	73,209	5,474	49,762
	Switzerland ...	,,	38	345	61	645	54	442	...	...	...	...	...	...
	Tunis	,,	...	...	411	2,647	102	460	...	...	...	...	...	...
	Ceylon	,,	1,841	13,350	690	5,526	1,048	5,619	487	3,313	401	2,862	932	5,990
	Austria	,,	...	...	20	180	...	...	...	...	30	330	...	...
	Egypt	,,	...	...	...	...	...	...	30	206	...	...	...	...
	Greece	,,	...	...	...	...	...	...	...	...	...	...	...	...
	British India ...	,,	...	...	...	...	...	...	125	1,113	...	...	...	...
	Spain	,,	895	6,332	...	...	...	...	...	...	...	...	...	...
	Carried forward ...	... ...	11,942	115,235	10,393	104,797	10,168	79,357	12,270	105,076	9,279	108,323	11,355	98,180

TABLE XIV.—*cont.*

Return showing Quantities and Values of Agricultural Exports during the years 1931-36.

Article	Country of Final Destination		1931		1932		1933		1934		1935		1936	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
	Brought forward...	... ...	11,942	£ 115,235	10,393	£ 104,797	10,168	£ 79,357	12,270	£ 105,076	9,279	£ 108,323	11,355	£ 98,180
Vegetables—cont.														
Potatoes (cont.)	France	Tons	...	...	32	257	...	...	1	7	...	...	...	...
	Sudan	,,	...	...	...	...	1	7	...	...	...	...	...	...
	Libya	,,	...	...	...	...	1	4	...	...	...	...	...	...
	Aden	,,	...	...	...	...	...	...	18	100	...	...	...	...
	Palestine	,,	...	...	...	...	...	...	9	41	...	...	...	...
	Morocco	,,	...	...	...	...	...	...	1	8	...	...	...	...
	Yugo Slavia ...	,,	...	...	...	...	...	...	11	119	...	...	...	...
	Other Ships' Stores	,,	...	...	...	...	...	...	3	19	...	...	...	...
	Total		11,942	115,235	10,425	105,054	10,170	79,368	12,313	105,370	9,279	108,323	11,355	98,180
Tomatoes	Italy	Value	...	...	...	...	...	8	...	...	...	...	...	...
Other vegetables	United Kingdom ...	Tons	...	...	...	...	...	4	...	2	...	...	...	5
	Tunis	,,	...	...	...	...	...	26	...	25	...	10	...	...
	Libya	,,	...	...	...	...	...	...	...	25	...	...	...	...
	Total		...	...	...	...	...	30	...	52	...	10	...	5
Bones and hoofs	United Kingdom ...	Cwts.	...	...	...	...	41	8	...	...	...	...	...	...
	Germany	,,	...	...	...	...	...	...	...	...	...	...	890	299
	Italy	,,	410	87	102	18	4,450	960	1,206	316	1,783	401	1,460	315
	Netherlands ...	,,	3,830	905	...	...	...	...	780	152	...	...	3,013	571
	France	,,	...	...	...	...	...	...	...	...	...	...	100	22
	Total		4,240	992	102	18	4,491	968	1,986	468	1,783	401	5,403	1,207
Cotton (raw)	United Kingdom ...	Cwts.	...	...	...	...	149	349	196	490	269	658	...	...
	Italy	,,	...	...	...	...	314	687	...	...	...	...	...	...
	Germany	,,	...	...	...	...	34	20	...	...	...	...	...	...
	Total ...		...	...	...	...	497	1,056	196	490	269	658	...	...
Cumin seed	United Kingdom ...	Cwts.	...	...	140	182	100	229	100	226	450	944	192	322
	Trinidad	,,	40	91	...	...	...	...	40	50	117	283	...	...
	Algiers	,,	...	...	...	...	...	...	30	50	...	...	...	...
	Brazil	,,	...	...	...	...	...	...	737	1,766	351	765	179	380
	Chili	,,	282	431	502	739	90	125	800	1,661	837	1,952	169	396
	Egypt	,,	845	1,232	502	612	806	930	...	...	...	...	100	190
	Germany	,,	1,623	3,522	1,903	1,993	1,611	2,226	1,136	2,691	271	631	322	604
	Italy	,,	61	130	196	286	350	697	205	585	100	266	...	...
	Libya	,,	34	34	...	...	10	16	73	144	27	53	...	...
	Netherlands ...	,,	2,092	3,900	788	918	1,117	1,730	782	1,733	856	1,720	661	1,121
	Norway	,,	116	213	50	67	110	240	100	269	311	655	220	404
	South America (country unspecified) ...	,,	...	...	...	...	...	...	...	...	188	410	...	...
	Tunis	,,	138	283	25	26	121	198	82	183	240	424	84	154
	U.S. America ...	,,	102	200	...	...	255	461	366	1,040	...	...	195	395
	Carried forward...		5,333	10,036	4,106	4,823	4,570	6,852	4,451	10,398	3,748	8,103	2,122	3,966

TABLE XIV.—*cont.*

Return showing Quantities and Values of Agricultural Exports during the years 1931-36.

Article	Country of Final Destination		1931		1932		1933		1934		1935		1936	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
				£		£		£		£		£		£
Cumin seed – cont.	Brought forward ...	... ...	5,333	10,036	4,106	4,823	4,570	6,852	4,451	10,398	3,748	8,103	2,122	3,966
	France	Cwts.	556	890	1,353	1,328	362	500	260	444	1,069	2,054	775	1,376
	Sweden	,,	...	...	...	...	...	...	20	48	40	93	20	40
	Argentine Republic	,,	427	761	596	839	163	260	160	477	283	616	40	70
	Peru	,,	...	...	...	...	...	...	...	...	40	72	60	120
	Mexico	,,	41	85	...	...	...	...	...	...	...	...	...	...
	Roumania	,,	151	320	...	...	...	...	...	...	40	90	...	...
	Ceylon	,,	...	...	382	554	...	...	...	...	...	...	...	...
	Bolivia	,,	...	...	2	2	..	...	...	...	...	...	...	...
	Portugal	,,	..	...	100	141	...	...	...	...	...	...	...	...
	Spain	,,	103	200	100	110	102	100	...	...	...	...	...	...
	Belgium	,,	...	...	...	...	21	30	...	...	20	40	...	...
	Denmark	,,	...	...	...	...	10	15	...	...	...	...	...	...
	Equador	,,	...	...	...	...	...	...	113	300	...	...	400	600
	Australia	,,	...	...	...	...	...	...	...	...	20	44	...	...
	British-West Indies	,,	...	...	...	...	...	...	...	...	25	54	...	...
	Czecho-Slovakia ...	,,	...	...	...	...	...	...	...	...	28	92	...	...
	Venezuela	,,	...	...	...	...	...	...	...	...	20	44	...	...
	Columbia	,,	...	...	...	...	...	...	...	...	...	...	287	504
	Greece	,,	...	...	...	...	...	...	...	...	...	...	20	39
	Total ..	... ...	6,611	12,292	6,639	7,797	5,228	7,257	5,004	11,667	5,333	11,342	3,724	6,715
Cumin seed (siftings)	United Kingdom ...	Cwts.	...	...	...	...	...	...	...	...	...	...	25	21
Hides and Skins (raw or dried) ...	United Kingdom ...	,,	195	445	56	90	18	103	43	72	131	259	204	411
	Belgium	,,	...	...	16	190	21	267	23	223	...	...	21	87
	France	,,	357	893	769	1,727	187	955	97	460	74	530	167	880
	Germany	,,	276	756	19	20	5	15	7	24	...	...	178	295
	Greece	,,	363	510	3,142	4,214	2,301	3,162	2,348	3,337	299	439	233	421
	Italy	,,	4,938	11,918	3,614	6,502	4,524	7,681	2,808	4,857	8,111	7,882	1,029	1,136
	U.S. America ...	,,	...	...	...	...	...	...	...	...	415	1,584	137	855
	Netherlands ...	,,	3	15	...	...	...	...	...	...	70	106	307	658
	Turkey	,,	754	1,163	391	501	260	427	240	363	2,769	4,458	2,869	5,726
	Syria	,,	...	...	23	34	...	...	...	...	...	...	...	...
	Spain	,,	...	...	...	...	...	...	...	...	...	...	...	...
	Libya	,,	...	...	...	...	558	800	18	180	186	262	...	...
	Tunis	,,	...	...	...	...	...	...	30	76	...	...	...	...
	Czecho-Slovakia ...	,,	...	...	...	...	...	...	...	...	96	299	155	502
	Egypt	,,	...	...	...	...	...	...	...	...	66	100	...	...
	Hungary	,,	...	...	...	...	...	...	...	...	40	60	...	...
	Yugo-Slavia ...	,,	...	...	...	...	...	...	...	...	26	40	...	...
	Palestine	,,	...	...	...	...	...	...	...	...	...	...	1,992	3,958
	South America ...	,,	...	...	...	...	...	...	...	...	...	...	17	41
	Total ...	... ...	6,886	15,700	8,030	13,278	7,904	13,410	5,614	9,592	12,283	16,019	7,309	14,970
Tallow	Italy	Cwts.	4,694	4,394	2,716	3,369	2,294	2,338	3,945	3,652	1,421	1,712	338	465
	United Kingdom ...	,,	1,017	1,428	...	...	6	7	596	545	616	820	2,298	2,777
	Netherlands ...	,,	22	35	...	...	...	...	40	100	...	...	...	...
	Egypt	,,	...	...	...	...	...	...	...	...	...	...	312	310
	Total		5,133	5,857	2,716	3,369	2,300	2,845	4,581	4,297	2,037	2,532	2,948	3,552

TABLE XIV.—*cont.*

Return showing Quantities and Values of Agricultural Exports during the years 1931-36.

Articles	Country of Final Destination		1931		1932		1933		1934		1935		1936	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
				£		£		£		£		£		£
Tar	Egypt	Cwts.	...	...	...	...	...	...	...	...	...	...	...	...
	Tunis	,,	...	...	2,685	464	100	25	...	...	94	38	30	12
	Belgium	,,	...	...	524	58	426	42	...	...	...	...	...	...
	Italy	,,	...	...	...	...	20	5	...	...	...	...	...	...
	Total ...	... ...	...	...	3,209	522	546	72	...	...	94	38	30	12
Horns and hoofs	France	Cwts.	...	...	157	50	...	...	...	...	...	...	...	...
	Italy	,,	...	...	20	7	...	...	...	...	...	...	...	...
	Total ...	... ...	...	...	177	57	...	...	...	...	...	...	...	...
Squills	United Kingdom ...	Cwts.	...	...	...	...	20	20	195	114	197	163	262	232
Wool (raw)	United Kingdom ...	Cwts.	...	...	...	...	...	...	...	...	616	1,090	...	...
Animals living:—														
Horses	Tunis	No.	4	230	...	...	1	20	...	..	...	...	1	50
	France	,,	10	55	...	...	...	...	...	..	...	...	...	...
	Total ...	... ...	14	285	...	...	1	20	...	...	...	...	1	50
Donkeys	Tunis	No.	...	...	3	17	...	...	...	...	...	...	...	...
	United Kingdom ...	,,	...	...	...	...	...	...	...	...	1	10	...	...
	Total ...	... ...	...	...	3	17	...	...	...	...	1	10	...	...
Goats	Cyprus	No.	...	...	...	...	...	...	...	...	...	...	...	...
	Albania	,,	...	...	...	...	...	...	...	40	...	...	96	480
	British India ...	,,	...	...	...	...	...	...	...	...	...	...	2	18
	Total ...	... ...	...	...	...	...	...	...	...	40	...	...	98	498
Mules	Tunis	No.	7	65	...	...	...	...	...	...	...	...	...	...
	France	,,	5	20	...	...	...	...	...	...	...	...	...	...
	Libya	,,	...	...	...	...	...	...	..	...	...	...	12	150
	Total ...	... ...	12	94	...	...	...	...	..	...	...	..	12	150
Unenumerated	Italy	No.	...	...	...	...	...	...	...	...	...	24	...	...

TABLE XIV.—*cont.*

Return showing Quantities and Values of Agricultural Exports during the years 1931-36.

Articles	Country of Final Destination		1931		1932		1933		1934		1935		1936	
			Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value	Quantities	Value
				£		£		£		£		£		£
Foods for animals—Bran	United Kingdom ...	Cwts.	...	...	...	...	6,552	1,275	1,680	420	16,664	3,758	9,303	2,105
	Germany	,,	...	...	...	...	...	...	...	...	608	187	...	...
	Italy	,,	3,457	613	137	31	75	13	591	139	281	61	...	...
	Libya	,,	2,829	700	6,140	1,858	3,586	801	735	177	8,502	1,811	...	...
	Tunis	,,	...	...	338	85	...	...	...	...	...	...	20	6
	France	,,	...	...	...	...	3,156	820	...	...	...	...	...	...
	Egypt	,,	...	...	...	...	...	...	...	...	497	125	1,260	377
	Total ...	... ...	6,286	1,313	6,615	1,974	13,369	2,909	3,006	736	26,552	5,942	10,583	2,488
Grain—Barley	Italy	Cwts.	...	...	...	...	...	...	...	...	...	...	...	...
Pulse—Beans	Italy	,,	...	...	40	50	47	45	...	...	...	...	...	...
	Libya	,,	...	...	15	8	67	55	6	6	...	...	...	...
	Tunis	,,	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	... ...	...	...	55	58	114	100	6	6	...	...	...	...
Wine in Bottles—(Still)	United Kingdom ...	Galls.	...	...	...	...	200	41	20	14	5	3	230	90
	Greece	,,	...	...	...	...	21	18	...	...	...	...	...	...
	Turkey	,,	...	...	...	...	12	13	...	...	...	...	...	...
	Italy	,,	...	...	...	...	...	...	...	...	...	...	21	5
	H. M. Ship's Store	,,	...	...	...	...	...	...	...	...	...	...	14	3
	Total ...	... ...	...	...	...	...	233	72	20	14	5	3	265	98
Honey	United Kingdom ...	Cwts.	...	...	...	...	...	...	...	...	3	20	2	8
	Egypt	,,	...	...	...	...	...	...	...	...	228	235	...	...
	Libya	,,	...	...	...	...	...	...	...	...	68	151	...	...
	Tunis	,,	...	...	...	...	...	...	...	...	...	...	5	10
	Total ...	... ...	...	...	...	...	...	...	...	...	299	406	7	18

APPENDIX I.

Report by the Director of Experimental Farm and Agricultural Organiser for the year 1936-37.

INTRODUCTION.

Following a year of severe drought, in the year 1937 owing to shortage of rain.. fodder crops and up to a certain extent also horticulture suffered a setback. As a result many farmers were compelled to limit livestock breeding especially cattle.

The work at this Branch has been somewhat checked by the absence of the Horticulturist and the Assistant Horticulturist, who are completing their training abroad.

POTATO VARIETY TRIALS.

The following varieties were obtained from the Government of Northern Ireland through the courtesy of the Controller of Agricultural Exports :— Dunbar Standard, Ulster Monarch, Arran Signet and Seedling A. In addition to these varieties, plots of Champion, Up-to-Date, Arran Banner and Bevelander Dutch (yellow fleshed round kidney) were planted in the same block for comparison. -18 square plots 27 × 27 ft. and 4 triangular half plots were planted, the arrangement of the variety plots being at random. A two feet space was left between all plots.

The tubers were planted between the 27th and 29th January, 1937, in a small field which was lightly manured and which had not been cropped with potatoes for the last two years. The weather was favourable during growth and the crop was irrigated when required. Lifted on the 28th May 1937.

The main purpose of this variety trial was to try and find possible alternative varieties to replace the Up-to-Date, as the locally grown white fleshed kidney variety. The Up-to-Date variety crops well in Malta but it is rather susceptible to disease and for this reason its cultivation is being reduced considerably also in Ireland.

Variety	Number of plots	Yield in rotolo				Total Graded Yield Rot.	Total Yield Rot.	Graded Yield
		Grade A	Grade B	Grade C	Small			
Dunbar Standard ...	No. 1 plot	12·57	—	2·28	2·28	15·14	17·13	2·43
Do. ...	No. 2 plot	A total failure				—	—	
Ulster Monarch	2 plots planted	Both total failures				—	—	—
Arran Signet	2 plots planted	Both total failures				—	—	—
Seedling A	No. 1 plot	101·14	—	15·14	4·57	116	120·57	18·75
Do.	No. 2 plot	101·14	—	11·43	4	112·57	116·57	18·40
Champion (averages per plot)	3 plots & 1 half-plot planted	96·57	7·43	16·57	4·57	120·57	119·43	19·44
Up-to-Date (average per plot)	2 plots & 2 half-plots planted	98·85	—	13·71	2·28	112·57	114·85	18·40
Arran Banner (average per plot)	2 plots & 1 half-plot planted	119·43	9·71	11·43	2·85	140·57	143·43	24·58
Bevelander (average per plot)	3 plots planted	69·71	—	53·14	16	122·85	138·85	19·80

Note:—The grades tabulated above are as follows:—

Grade A (medium) — From 1¾ ins: to 2¾ ins: square gauge.

Grade B (large) — Over 2¾ ins: square gauge.

Grade C (small) — From 1 inch to 1¾ ins: square gauge.

It will be noted that, of the four new varieties planted, viz: Dunbar Standard, Ulster Monarch, Arran Signet and Seedling A., only Seedling A was at all successful, the others being virtually total failures. This was particularly unexpected in the case of the Dunbar Standard variety which was tried out under the name of "A.13" in 1936: In 1936, only small quantities of seed were available and only small single plots of each could be planted, but the A.13 then gave a yield equivalent to 18.05 ktrs. per tumolo which was higher than the yields of any of the other six varieties planted, which included Champion and Up-to-Date for purpose of comparison. It should be mentioned that the date of planting this year was rather over two weeks earlier than in 1936. The almost total failure of the three varieties is difficult to explain: it is suggested, however, that possibly these varieties are not ready to start growth in January — early February, and thus, with the planting of cut sets the cut surfaces made the sets very liable to rotting.

It is seen that the seedling A yields were quite satisfactory, both as regards quantity and as regards percentage of grade A tubers, and also as compared with Up-to-Date (and Champion and Arran Banner). Further trials with this variety, and with at least also with Dunbar Standard, seem to be needed.

The tabulated yields also show once again the suitability of the Champion and Up-to-Date varieties to local conditions and similarly also show the suitability of the Arran Banner variety, the planting of which has extended considerably in the past two years. In this trial, the Arran Banner proved a rather heavier cropper, as is being found with most local plantings.

As regards the Bevelander (Dutch) variety included in the trial, the results, despite a fairly heavy total yield, cannot be considered to be very satisfactory. Early growth was even and good but later was relatively stunted and the effect of this is clearly shown in the proportion of small tubers. This feature of the cropping of the Bevelander variety was also observed with commercial plantings.

Another trial was made with the King Edward and Royal Kidney varieties from seed freely supplied by a Spanish gentleman interested in the export of potatoes. In this trial whole tubers were planted, and they were divided into three groups (1) Small, (2) Medium, (3) Large. The area per plot varied according to the amount of seed available.

The land selected was surface manured and the tubers were planted on the 1st March 1937, growth was good and the crop was irrigated when required. The crop was lifted on the 15th June 1937.

Experiment carried out with the Royal Kidney and King Edward Potato Varieties.

Variety	Size of tubers	Area of plot in sq. ft.	Seed planted in rotoli	Production in rotoli	Production in kantars per tumolo	Production of seed to crop
King Edward	Small	966	21	69·50	8·73	100:331
King Edward	Medium	1,496	58·25	157	12·70	100:222
King Edward	Large	1,809	95·50	206	13·78	100:215
Royal Kidney	Small	792	12·75	12	1·84	100:94
Royal Kidney	Medium	1,008	29·50	52	6·24	100:180
Royal Kidney	Large	1,008	51·50	103	12·36	100:200

The yield in each plot is not satisfactory, but considering the conditions under which the experiment was carried out the result suggests further trials. As the seed was consigned at the end of February, the best land had already been scheduled for other experiments, and, therefore, the only plot available for planting these potatoes consisted of shallow land badly infested with mole cricket. It may be stated that the total weight was reduced to one half as a result of attacks from this pest. In all plots the

production of the King Edward was invariably greater than in those plots planted with Royal Kidney. The highest yield was obtained from the small tubers of King Edward.

The main object of this trial was to study the suitability or otherwise of planting whole tubers, which practice is followed in certain countries.

WHEAT.

A trial on a scale smaller than the one conducted last year was repeated with the following varieties of wheat, viz: Cappelli, Virgilio and Malta Yellow to observe the result of fractional spreading in increasing doses of the nitrogen fertilizer during growth.

The control plots and plots under trial, were equally manured before sowing, but in plots under trial one half of the nitrogen fertilizer was spread in three times in increasing doses at an interval of three weeks.

Variety	Nitrogen before sowing Production per tumolo in rot.		Nitrogen after sowing Production per tumolo in rot.	
	Wheat	Straw	Wheat	Straw
Cappelli	151	617	106	578½
Virgilio	74½	400	75½	387
Malta Yellow...	72	316	115	290

No results could be obtained from this trial owing to lack of rain during the winter months. There is a discrepancy in the yields of the different varieties; in the control the yield in wheat of the Cappelli variety exceeded by 30% the yield of the plot under experiment; and the quantity of straw in the control plot was also greater than that of the plot under trial; the Virgilio gave nearly the same yield in wheat and straw in both plots, while the Malta Yellow produced 37% more wheat in the plot under trial, while the production of straw was slightly less in the same plot.

Fractional spreading of nitrogen fertiliser may be advantageous only in those years when the rainfall during the winter months is abundant and at regular periods. In dry winters the effect of fractional spreading is indifferent and in some instances harmful.

MAIZE.

A trial with five varieties of maize was conducted with the object of substituting the local variety with others which would give better yield in fodder and in seed.

The seed of four foreign varieties was produced locally while the fifth variety was the local one and served as control.

Variety of Maize	Quality	Area of plot in sq. ft.	Production of green fodder in rotoli	Production of green fodder in Ktrs. per Tum.
Evergreen sweet corn	Fodder Corn	408	290	86·01
Sweet fodder	„ „	408	320	94·91
Local variety	Field Corn	952	516	65·58
Early golden Orange	„ „	952	386	49·06
Early large yellow flint... ...	„ „	408	250	74·15

The fodder varieties gave good results, and a greater yield than that of the local variety and of the other two varieties classified as field corn, one variety exceeded and another produced less fodder than the local variety.

OATS.

It is desirable to introduce the cultivation of oats in these Islands. Oats should be one of the staple foods in the ration of livestock, especially of breeding stock. A trial with varieties imported from the U. S. A. failed, the only one which could give a fair yield was heavily attacked by rust. Last year, fifteen varieties of oats were kindly supplied by the Director of New England Experimental Farm, Glen, Innes, New South Wales. The plots measured 3 ft. × 3 ft. and the land was manured the year before when it was planted with potatoes. The seed was sown in beds on the 20th November 1936 and the crop was lifted on 31st May 1937. Owing to the particularly severe drought, this experiment was carried under very trying conditions.

Trial with oats on Hammieri Experimental Farm 1936-37.

Name of Variety	Production Plot of 9 sq. ft.	Order of Maturity	Length and production of straw	Strength of stem
Fulghum	37½ ozs. (Maltese weight)	1	3	8
Algerian	35 „ „	2	1	4
Algerian B 49	24¾ „ „	3	8	7
County Common ...	26¾ „ „	4	2	2
Klein 69 B.	3 „ „	5	13	15
Lee	16½ „ „	6	11	10
Bond	26 „ „	7	5	1
Victoria	13 „ „	8	9	3
Romano 6	13¼ „ „	9	15	11
Vrome	12¾ „ „	10	7	5
Mindag	8½ „ „	11	6	6
Lampton	13½ „ „	12	4	9
Dun	8 „ „	13	12	12
White Tartarian ...	2 „ „	14	10	14
Magistral...	2 „ „	15	14	13

When judging the varieties, preference should be given for early maturity, good yield and abundance of straw also, strength of stem is desirable. Of course, in our climatic conditions earliness in maturity, is the most essential factor. The Fulghum and Algerian varieties gave the best yields, while they showed also other good points. Next in order of productivity are County Common W2122 Bond and Algerian B49. It is advisable to carry out further trials with such varieties.

TOMATOES.

Tomato seedlings for the production of tomatoes for the canneries, were distributed. In all 54,550 seedlings of the following varieties were distributed: Best of All, Perfection, Everyday, Vesuviana, San Marzano and Ladino di Pannocchio. 49,750 seedlings were sold in Malta at a nominal price and 4,800 in Gozo, these figures represented a decrease in respect to those of last year of 47,200 seedlings. Owing to the persistent drought farmers were not inclined to plant tomato seedlings as the soil was lacking the necessary moisture for the cultivation of tomatoes. In Gozo, the soil is more suitable for tomato growing and the diminished demand for seedlings is due mainly to the distribution of seed which was done by the owners of a new cannery which was installed at Victoria this year.

ONIONS.

The onions of the local variety for export differ considerably in shape; this is a great drawback for the export of this commodity, especially when the crop is destined to the United Kingdom where standardisation of all agricultural produce is strictly adhered to. Accordingly the brown round flat onions of uniform medium size are selected and planted for the production of seed. Besides the local variety, others such as the Valencia (Spanish) and the Dahoby (Egyptian) are also grown for the same purpose. The possibility of substituting the local variety with one of these will also be investigated.

CONTROL OF MOLE CRICKET.

In view of the damage caused by the mole cricket to kitchen gardens, the experiment carried out last year with ten different methods to protect seedlings against this pest, were again repeated on a wider scale. The trial was conducted in three fields; field No. 1 was known to be heavily infested with mole cricket, field No. 2 was slightly infested and field No. 3 had traces of mole cricket.

No.	Kind of protection for seedlings	No. of seedlings transplanted in Field No.			% of seedlings cut by mole cricket Field No.			% of seedlings cut in field No.		
		1	2	3	1	2	3	1	2	3
1	Naphthalene: 55 rotoli per Tumolo ...	36	36	36	34	24	13	94	67	36
2	Naphthalene: 27½ rotoli per Tumolo ...	36	36	36	24	14	13	67	39	36
3	Cane: 4" long	36	36	36	8	2	—	22	6	—
4	Cane: 6" long	36	36	36	7	3	—	17	8	—
5	Seedlings planted on ridges ...	53	36	36	41	1	—	80	3	—
6	Carbon Bisulphide 40 stokes per square canna	36	36	36	26	1	1	72	3	3
7	Zinc pipes: 4" long	—	18	8	9	—	—	50	—	—
8	Zinc pipes; 6" long	—	18	14	1	—	—	6	—	—
9	Fosfarina	36	36	36	12	—	—	33	—	—
10	Heaps of dung	36	36	36	32	5	—	89	14	—
11	Control	36	36	36	27	1	1	75	3	3

The most important result is that of Field No. 1 as the effect of protection may be seen better when seedlings are more liable to attacks. The treatment of soil with different doses of naphthalene, with carbon bisulphide, and planting on ridges did not protect the seedlings, heaps of dung did not help to check the pest, but they undoubtedly left beneficial effects as 159 mole crickets were collected on different occasions from the manure heaps in the plot. Although damage could not be prevented ,yet the land was cleared from this pest, with great advantage of the crops that follow. The application of phosphorine reduced the damage to 44%, while the most effective protection was obtained by the use of pipes, and of these the zinc pipes proved to be better. The fact that with the use of four zinc pipes the damage was 50% must be considered as an exception. Also pipes are the less costly treatment as they may be used for many years, especially the zinc pipes.

In Field No. 2 the naphthalene treatment proved equally ineffective to protect seedlings while for slight infections all the other methods, with the exception of zinc pipes and phosphorine, proved indifferent. In field No. 3 the carbon bisulphide treatment was useless, while the application of naphthalene in soil has the effect of attracting the pest, which fact accounts for the number of seedlings cut which is far greater than that of the control plot. The action of the naphthalene appears to be that of the destroying the pest, when the damage will have already occurred, just as it happens with the heaps of dung : considered in this way, the action of the naphthalene will be beneficial to the crops which follow.

The phosphorine was 100% effective but as it is very poisonous, it is not advisable to let it in the hands of farmers. The best protection even in fields No. 2 and 3 was that of zinc pipes and next that of seed ones. In the three fields these methods appeared the most effective and most economical to check mole cricket.

PIG BREEDING.

At the end of October 1937 the following pigs were kept at the Farm. This number varies continually, according to the needs of farmers who as a rule have recourse to this Branch for the supply of available pigs, especially of boars. Also as breeding stock is rigorously selected, the pigs which are not utilised for breeding purposes are fattened and sold as fatteners.

No. of pigs at Government Experimental Farm.

	L. W.	M. W.	Berks.	W. S. B.	Total
Boars	2	1	2	1	6
Sows	5	3	2	1	11
Young boars	13	8	1	2	24
Gilts	17	24	14	6	61
Sucklings...	32	21	—	—	53
Fatteners...	5	6	13	—	24
Total	74	63	32	10	179

In addition to the above, 14 boars were kept on loan by farmers in Malta and 11 boars in Gozo. On the 20th July 1937, the Pig Breeding Ordinance, came into operation, and as a result all the boars were withdrawn and sold for breeding purposes. Nearly all boar keepers purchased the boar they formerly kept on loan, also other boars were sold bringing the total number of boars licensed according to the provision of the aforesaid Ordinance to 48 of which 41 are receiving an annual subsidy of £6.

Services performed in Malta by Government Stud Boars from the 31st October, 1936 to 1st November, 1937.

No. and breed of boar.	Locality where the Boar is kept.	Govt. Expl. Farm	Attard	Ghaxaq	Birkirkara	Birżebbuġa	Għargħur	Kirkop	Lija	Luqa	Marsaskala	Mġarr	Mosta	Mqabba	Mellieħa	Naxxar	Qrendi	Qormi	Rabat	Żebbuġ	Żejtun	Żurrieq	Benghisa	Żabbar	St. Paul's Bay	Total	Remarks
No. 107 Large White	Is-Santi ...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	75	...	...	...	...	...	...	80	Consigned 4.6.36
„ 66 Middle White	Il-Pwales ...	...	...	...	...	...	...	...	...	...	...	...	...	...	19	...	...	...	...	..	...	...	...	...	147	166	Consigned 4.6.36
„ 124 Large White	St. Paul's Bay	...	...	...	...	...	...	...	...	...	...	1	65	...	12	12	...	...	...	...	...	...	...	...	155	245	Consigned 5.9.36
„ 94 „	Rabat ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	56	...	...	...	...	...	...	56	Cons. 1.5.36 Withdrawn 25.12.36
„ 109 „	Żebbuġ ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14	...	...	...	...	...	14	Consigned 6.5.37
„ 160 „	Rabat ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	43	...	...	...	...	...	...	43	Consigned 15.3.37
„ 62 „	Żurrieq ...	...	...	...	...	5	...	3	...	...	...	...	...	...	...	...	...	...	...	..	...	59	11	...	...	78	Consigned 26.3.36
„ 63 „	Mosta ...	...	1	...	10	...	6	...	1	...	...	...	38	...	...	25	...	...	...	...	...	...	...	...	6	87	Consigned 30.9.35
„ 92 „	Mosta ...	...	3	...	10	...	9	...	7	...	...	...	79	...	...	48	...	...	1	..	...	...	...	...	9	166	Consigned 5.1.36
„ 177 Middle White	Marsaskala ...	...	...	3	...	..	...	...	...	...	9	...	...	...	...	...	...	...	...	...	20	...	...	2	...	34	Consigned 5.1.36
„ 87 Large White	Rabat ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	55	...	...	...	...	...	...	55	Consigned 11.1.37
„ 85 „	Qormi ...	...	...	...	...	...	...	...	1	2	...	...	...	1	...	1	...	37	...	2	...	...	...	...	...	43	Consigned 16.9.36
„ 101 Wessex Saddleback	Kirkop ...	1	...	1	...	2	...	27	...	1	...	...	...	...	...	...	6	...	...	...	...	2	...	...	...	41	Consigned 5.1.36
		1	4	4	20	7	15	30	9	3	9	6	182	1	31	86	6	37	230	16	20	61	11	2	317	1108	

Services performed in Gozo by Govt. Boars from 31st August, 1936 to 30th August, 1937.

No. and breed of Boar.	Locality where Boar is kept	Ghajnsielem	Gharb	Xagħra	Kirċem	Nadur	Qala	Sannat	Victoria	Xewkija	Żebbuġ	Total	Remarks
No. 123 Large White	Xagħra ...	...	...	89	...	...	...	...	...	...	...	89	Consigned 3 7.36
„ 118 „	Nadur ...	1	...	...	...	44	10	...	...	1	...	56	Consigned 13.9.36
„ 55 „	Nadur ...	...	...	...	...	120	2	...	...	...	...	122	Consigned 22.3.35
„ 119 „	Kaċċa ...	...	...	76	...	...	...	...	13	...	...	89	Consigned 13.9.36
„ 89 „	Hamet ...	36	2	2	1	...	2	2	19	17	...	81	Consigned 5.10.36
No. 68 Middle White	Nadur ...	3	...	...	...	29	...	...	...	...	...	32	Consigned 8.6.36
„ 67 „	Kerċem ...	...	5	...	24	...	...	2	9	1	2	43	Consigned 16.9.36
„ 1282 „	Xewkija ...	6	...	...	...	...	2	2	19	17	...	46	Consigned 8.1.36
No. 112 Wessex Saddleback	Victoria ...	...	2	...	6	...	...	5	27	2	...	42	Consigned 5.10.36
„ 52 „	Qala ...	...	...	...	...	...	18	...	...	...	...	18	Consigned 8.6.36
No. 139 Berkshire ...	Għarb ...	...	13	...	...	...	...	...	...	...	...	13	Consigned 21.12.36 Withdrawn 31.5.37
		46	22	167	31	193	34	11	87	38	2	631	

In Malta the services performed by the boars on loan amounted to 1,108 against 554 services of last year, this shows a 100% increase in respect to those of last year. Notable increases were recorded at St. Paul's Bay with 317 services, Rabat and Mosta. These three districts, retained their superiority on all other districts, in the number of services which they established last year. Some districts such as Tarxien, which for reasons beyond our control, were not provided with a Government stud boar did not record any service this year. In such case, farmers made use of scrub boars, which according to the Pig Breeding Ordinance cannot be utilised any more for service.

In Gozo a considerable increase in the number of services which reflects increased production, was also noticed. This year the number reached 631 against that of 288 of last year. In all districts an increase followed, the greatest one being recorded at Nadur with 193 services against 49 services in 1936, thus Nadur once again established its superiority over other districts, and proved to be the most important pig breeding centre in Gozo.

In both Islands a decided preference is given to the crosses with the Large White Breeds as butchers are inclined to pay a higher price for such crosses. Other ones are equally suitable, especially with the W. S. B. It was noticed, however, that Middle White sows showed as a rule, shortage of milk after their fourth litter and consequently after the second year litters cannot be reared so well.

This year the market price of pork was sustained notwithstanding the usual seasonal variation. Owing to a European epidemic of foot and mouth disease, at one time there was a shortage of beef in these Islands and as a greater demand for pork resulted the price of this commodity increased. However, it was of a short duration and prices again returned normal, when bullocks could be imported. Only fair market price for pork will induce farmers to breed more pigs; fixation of price limit in the sale of pork cannot remedy for any shortage of pigs whenever it exists and controlled imports will mean a serious loss to farmers who will be obliged to give up pig breeding, thus increasing the shortage of locally reared pigs, which shortage might exist for a short period. Farmers argue that they cannot depend on the whim of the Government to have directly or indirectly a limitation of their profit when the authorities concerned do not subsidise them for any loss which they might suffer, as it happened in August 1935 when the price of pork reached £2 per kantar. Since then prices increased and with these also pig rearing increased as may be seen from the following number of services.

NUMBER OF SERVICES.

	1935-36	1936-37	Increase
Malta	554	1,108	554
Gozo	288	638	350

SHEEP.

Owing to the continuous in-breeding of the Maltese and Gozitan sheeps, it was proposed to introduce new blood to improve the local breed. Accordingly 9 rams and 5 ewes of the East Friesian breed were imported from Germany on the 9th March 1936. The ewes were imported pregnant and each of them gave birth to twins, in June 1937. The object of the cross is the increase in milk yield, bigger body and improved wool.

Seven rams were given on loan to farmers in Gozo. In Malta conditions of sheep breeding are different than those in the sister island :- rams here are left among the flock, without any control of service, while in Gozo ram owners call from farm to farm with their ram and thus every service may be recorded. As we were concerned with the study of the individual crosses we had no other alternative but to send these rams to Gozo where complete records could be kept.

In some districts, farmers dislike these rams, because the tail was without any wool. As a matter of fact, this is one of the good points of this breed as cleaner milk may thus be produced.

It is premature to give an opinion, but farmers, even those who criticised this breed, are very enthusiastic about it, especially after the Gozo Show, when crosses obtained prizes for their well developed body which was far above the normal of the local breed.

The following rams and sheep are kept at the Farm :—

Rams.	Young Rams.	Ewes.	Young Ewes.
2	5	5	4

Services performed in Gozo by Government Rams from the 5th April, 1937 to 1st October, 1937.

No. and breed of Ram	Locality	Victoria	Kaċċa	Xewkija	Għarb	Nadur	Kerċem	Total	Remarks
No. 4413 East Friesian	Victoria ...	170	...	...	...	...	...	170	Consigned 4.5.37
„ 4477 „	Kaċċa ...	...	103	...	...	...	...	103	Consigned 4.4.37
„ 81775 „	Kaċċa ...	...	96	...	...	...	...	96	Consigned 5.4.37
„ 4425 „	Xewkija ...	...	...	92	...	...	..	92	Consigned 4.5.37
„ 4467 „	Għarb ...	...	...	...	81	...	...	81	Consigned 5.4.37
„ 68562 „	Nadur ...	...	...	...	...	17	...	17	Consigned 5.4.37
„ 4453 „	Kerċem ...	...	...	...	...	...	10	10	Consigned 25.5.37
								569	

POULTRY REARING.

In order to decrease the infertility of eggs, the number of hens in each pen was reduced and to counteract the reduction more pens were constructed which are also required to meet the ever increasing demand for hatching eggs. The hatching season started in the 30th December 1936 and ended on the 8th April 1937. It is expedient to start early hatching, because mortality is lessened, better growth results and what is most important pullets start laying during autumn when the price of eggs is high. Early hatching can only be done by incubators.

To induce farmers to follow this practice, seven incubators and seven brooders were given on loan to farmers, who were also privided with hatching eggs at reduced price from the Farm. The object of this was to popularise incubators among farmers who as a rule think that chickens thus hatched are never healthy. This scheme was a success, as nearly all farmers, assisted by our Poultryman, hatched from 74 to 85 per cent. of the fertile eggs, which result is very satisfactory. At the end of the hatching season, the incubators were withdrawn and in the next season, they will be given on loan to other farmers.

Steps are bing taken to still lower the percentage of infertility of eggs used for hatching. In 1937 it averaged 20%, the lesser percentage of infertility being that of the Rhode Island Reds and of the Maltese Black. Also the best hatches obtained were from these two breeds, while "dead in shell" were highest with the Buff Plymouth Rocks and lowest with the White Leghorns and the Maltese Black. This year, in contrast with last year, the highest mortality of chickens in the first fifteen days was highest with the Buff Plymouth Rocks and lowest with the Maltese Black. The mortality of cockerels and pullets up to the age of four months was highest with the White Leghorns and lowest with the Maltese Black.

Taking all the above factors into consideration as regards rearing, the Maltese Black was superior to all imported breeds, next in merit was the Rhode Island Reds, followed by the White Leghorns and Buff Plymouth Rocks.

As regards laying the R.I.R. were superior to all breeds, they were closely followed by the Maltese Black.

Two auction sales of sexually mature cockerels and pullets were held, one in Malta and one in Gozo. In Malta 144 birds were sold and in Gozo 82 : the number of farmers attending such sales was greater than that of last year, and considering the price they are accustomed to pay for birds, the prices realised were good, which fact shows that farmers appreciate birds bred at this Branch.

The eggs sold for hatching amounted to 7,354 in Malta and 1,344 in Gozo : to these must be added other 2,148 eggs which were sold to farmers who kept an incubator on loan. Eggs for hatching were rigorously selected, all bad shaped ones, and those less than 2 ozs. in weight being invariably discarded.

Return showing the number of Fowls vaccinated from 1st November, 1935—up to 30th September, 1936.

Location	No. of fowls vaccinated for			Location	No. of fowls vaccinated for		
	Fowl Pox	Fowl Cholera	Total		Fowl Pox	Fowl Cholera	Total
MALTA.							
Attard	85	—	85	St. Andrews	430	—	430
Għaxaq	121	37	158	St. Julians	—	200	200
Birkirkara	745	188	933	St. Paul's Bay ...	295	—	295
Balzan	150	—	150	Tarxien	140	—	140
Birżebbuġa	251	—	251	Żabbar	554	158	712
Imriehel	50	—	50	Żebbuġ	78	—	78
Kirkop...	805	—	805	Żeitun	94	99	193
Cospicua	182	—	182				
Floriana	—	27	27		10,323	1,944	12,267
Gżira	21	—	21				
Hamrun	1,293	—	1,293	Gozo.			
Luqa	986	—	986	Għarb	1,398	594	1,992
Marsa	107	—	107	Qala	233	57	290
Marsaxlokk	18	—	18	Kirċem	669	176	845
Msida	398	—	398	Nadur	180	—	180
Mosta	1,160	488	1,648	Victoria	341	104	445
Naxxar ...	118	36	154	Xagħra	242	—	242
Pawla	142	79	221	Xewkija	163	131	294
Pietà	257	107	364	San Lawrenz	107	—	107
Siġġiewi	1,273	383	1,656				
Sliema	570	142	712	Total ...	3,333	1,062	16,662

Free vaccination of birds, proved also a success, the number of applications increased and the birds vaccinated for fowl pox were 3,941 more than those of last year while for fowl cholera 1,203 more birds were also vaccinated.

CATTLE.

The following cattle are kept at the Farm : 2 Ayrshire bulls, 2 Brown Swiss bulls, 1 Ayrshire cow, 2 Brown Swiss cows, 1 Maltese cow, 2 heifers, 1 Brown Swiss and 1 Brown Swiss x local breed and three calves, an Ayrshire bull calf, a Brown Swiss she calf and a Brown Swiss x local breed she calf. The Ayrshire cow and one of the Ayrshire bulls were kindly presented by Dr. MacFarlane to the Government.

The foot and mouth disease epidemic did not spare the livestock at the Farm. On the 30th September 1937 we discovered that the young Ayrshire bull was affected, other cattle followed : To try to check this disease, the first four cattle affected were removed to Lazzaretto, but as the infection did not stop there, the remaining livestock was kept at the Farm under quarantine. As a result of this disease a Maltese cow and the Brown Swiss x local breed she calf died.

Nine Brown Swiss bulls are kept on loan by farmers in Malta and Gozo for stud purposes. The services performed by each bull were as follows :—

Services performed in Malta by Government Stud Bulls from 1st September, 1936 to 31st August, 1937.

No.	Breed	Locality	Attard	Għaxaq	Gudja	Hamrun	Kirkop	Luqa	Mellieħa	Msida	Marsa	Marsaxlokk	Mġarr	Naxxar	Qormi	Rabat	Siġġiewi	St Paul's Bay	St. Julian's	Tarxien	Żurrieq	Żebbuġ	Żejtun	Total	Remarks
706	Brown Swiss ...	Tarxien ...	...	11	...	...	6	3	...	...	...	2	3	1	2	...	...	...	..	48	3	5	28	112	Consigned 20. 11. 35
2097	Brown Swiss ...	Rabat ...	...	...	...	...	...	...	...	...	...	...	...	...	...	165	...	...	...	...	...	...	...	165	Consigned 3. 4. 35
788	Brown Swiss ...	Marsa ...	1	...	...	...	...	...	2	1	10	...	...	...	3	...	3	2	...	1	1	2	...	26	Government Expe. Farm
2	Brown Swiss ...	Marsa ...	1	...	...	3	...	...	1	...	1	...	...	...	4	...	4	2	...	2	1	1	...	20	Government Expe. Farm
44998	Brown Swiss ...	Marsa ...	1	...	1	1	...	...	...	...	1	...	...	...	7	1	...	...	1	2	...	...	...	25	Government Expe. Farm
																								350	

Services performed in Gozo by Government Stud Bulls from 1st September, 1936 to 31st August, 1937.

No.	Breed	Locality	Viktoria	Xgħara	Nadur	Xewkija	Qala	Għajnsielem	Għarb	Kirċem	Sannat	Żebbuġ	Għasri	SanLawrenz	Total	Remarks
2365	Brown Swiss ...	Kaċċa ...	5	75	...	...	...	...	...	...	...	5	...	...	85	Consigned 1. 4. 35.
1903	Brown Swiss ...	Kaċċa ...	...	64	...	1	...	...	...	...	...	...	...	...	65	Consigned 21. 11. 35
7975	Brown Swiss ...	Għarb ...	...	...	...	...	...	...	35	...	...	...	5	12	52	Consigned 20. 1. 36
1589	Brown Swiss ...	Kerċem ...	29	...	...	2	...	...	...	22	3	20	1	...	77	Consigned 1. 4. 35
884	Brown Swiss ...	Għarb ...	...	...	...	...	...	...	51	...	...	...	...	...	51	Consigned 21. 11. 35
2403	Brown Swiss ...	Nadur ...	...	...	16	...	15	4	...	...	...	...	...	...	35	Consigned 4. 11. 36
1	Brown Swiss ...	Nadur ...	...	...	23	...	4	...	...	...	...	...	...	...	27	Consigned 5. 9. 36
															392	

This year the number of services in Malta showed an increase of 64% over that of last year. As usual the Rabat district records a far greater number of services than the other districts. In the eastern districts especially at Tarxien and Żejtun the increases were remarkable, in other districts there was either small increase or decrease, in respect to the services done last year.

In Gozo the number of services by the Brown Swiss bulls given on loan to farmers show an increase of 80% over that of last year. The highest number recorded is that at Kaċċja with 139 against 68 of last year. This district is the most important one as regards cattle breeding. All other districts showed an increase with the exception of Viktoria and Għasri which had a slight decrease.

These results are more outstanding when it is considered, that many cattle were slaughtered as farmers, owing to the severe drought, had no fodder to feed their cows and therefore had no other alternative but to slaughter them. Also for a few months the price of beef was very high and farmers had a greater inducement to dispose of their cattle. Some farmers complain that cows calf with great difficulty when served by the Brown Swiss bulls, this is a mistaken idea as cows have no trouble during parturition of such crosses. On a few occasions some heifers calved with difficulty or else in exceptional cases died, but this always happens and has no connections whatever with the breed of the bull.

DONKEYS.

One jack, three jennies, and one young jenny are kept at the Farm, also one jenny is kept at Buskett. Seven mares were served. Donkeys are utilised for field work as the main object for which they were kept viz: mule breeding is practically abandoned.

FARM IMPLEMENTS.

Our plough is used in these Islands from time immemorial, it is perhaps the oldest farm implement in these Islands. The function of our plough is that of loosening the earth, while the proper function of a plough as generally meant is that of over-turning the earth, and this can only be done by a mould board plough. Accordingly a type was imported, which is light enough to be transported over the shoulder, as it is the practice with our farmer and which can be drawn by a single animal, even a donkey. Twelve ploughs were imported and some of them were given on loan to farmers for propaganda purposes. However, in shallow rocky land, the local plough cannot be substituted. A mould board plough with one arm, was also imported, but as the former is cheaper and equally efficient, preference was given to the two arms plough.

BUILDINGS.

The building of the cowshed is completed and also the woodwork; the dairy is nearly completed. These buildings are complementary and they will be completed within a few months. The cowshed which will house 20 cows and three bulls is also provided with isolation and maternity stalls, boxes for calves and heifers, milking and grooming rooms and a store room. The dairy besides the boiler and bottling rooms is also equipped with a cold store, a room for appliances and another room for cheese making.

The piggery is completed and within a couple of weeks the pigs will be housed in it. It is provided with farrowing pens, pens for boars and for weaners, store room, mixing room and a room for the stockman. Also a run provided with a bath is attached to every pen.

In 1935 three different types of wooden pig houses were imported from England, for outdoor breeding. This system under local climatic conditions has several advantages, over indoor breeding as the stock will be more healthy, it is less liable to disease and growth is quickened, while litters reared outside will be rarely troubled with scour. In 1936 three houses of each type, modified to meet better local conditions, were constructed locally, with the object of giving them on loan to farmers to teach them the advantages

of outdoor breeding. Those farmers who got one on loan are pleased with the results achieved.

In the Poultry Seciton, other eight stone pens of the open type front similar to the original ones, which proved to be the best type for these Islands, were also constructed. The demand for hatching eggs is increasing, and to meet it, these pens were constructed. Most probably other pens will be required in the near future.

As it is desirable to add turkey rearing in the poultry section, a breeding pen in two sections, for turkeys, a rearing pen also in two sections and three single pens for male turkeys were constructed. There is a great mortality of turkeys every year, in all farms, so it is proposed to teach farmers the proper method of breeding turkeys. Turkeys are in great demand especially during the Xmas festivities when here as elsewhere the turkey represents one of the principal items of a Xmas dinner.

The construction of the rabbitry is begun and it will be ready within six weeks. It is a small one, with a store room attached. As it is anticipated that it will not be sufficient to meet local needs, it has been so planned that it will be possible to extend it.

MANURE PLATFORM AND PIT.

A circular manure platform with a concrete boundary wall 3 ft. high and a cesspit in direct communication with the cowshed to collect the urine, was constructed. Its object, besides that of properly keeping dung, is that of instructing farmers one of the several methods of dumping dung, without losing so much of the nitrogen fertiliser, which under existing conditions is partly lost as ammonia gas.

PROPAGANDA.

Farmers in Malta and Gozo are given every opportunity to visit the Farm. Organised visits at the expense of the Government are arranged on different Sundays. This year nine visits were made and in all 822 farmers were given a free trip. This number is only a fraction of the number of farmers who visit the Farm on working days. While town people are allowed to visit the Farm only on Thursdays, farmers are permitted to call on any day. Inspections on private farms in Malta and Gozo are regularly carried out and advice on hygiene, selection and nutrition of livestock and on field crops is given.

APPENDIX II.

Report on Viticulture for the Year 1936-37.

INTRODUCTION.

On the whole the agricultural year 1936-37 has come out normal as regards viticulture, in spite of the low rainfall, during the wet season.

The vines which in the previous year 1936 have given a low yield, were able to resume normal growth and yield a larger crop in 1937.

Cryptogamic diseases were almost negligible and attacks were well kept under control by means of treatments with sulphate of copper. So that also as regards quality, the yield for the year under review, may be termed satisfactory, having regard to the varieties of vine cultivated, producing grapes generally unsuitable for wine-making.

It is estimated that the grape crop for the year 1937 — on a total area of about 6,000 tummoli of land under vine in the three islands, — has reached about 39-40 thousand qantars.

Also this year almost the entire crop has been rendered into wine; the rest being consumed directly as table grapes. The orderly marketing of the crop did not meet with much difficulty and brought fairly remunerative returns to the farmer.

While the old vineyards, planted on tame stock, and therefore subject to the ravages of Phylloxera, may practically be considered already eliminated, the new vineyards — reconstituted on american stock — have continued to extend regularly. The cultivation of the vine, especially in Gozo, continues to represent the safety value of the farmer.

On the basis of the nursery stock cropped in 1936, it is estimated that during the last planting season, another 350 tummoli of land have been put under vine. In the Island of Gozo, whose soil is not much suitable for the cultivation of potatoes for export, the area under vine is increasing to the extent of about 250 tummoli per annum. In Malta, the yearly increase has not yet surpassed 100 tummoli but there are clear signs that the reconstitution of vineyards in Malta, is bound to increase gradually and in proportion to the increasing difficulties in the exportation of our early spring potatoes. Recent experience has shown that Holland, usually the premier importing country of early Maltese potatoes, both on account of the diminished buying capacity of the guilder and on account of increased customs duties as well as a considerable increase in freight, has lately reduced purchase prices enormously, thereby jeopardizing the convenience of continuing to cultivate the said spring potatoes in Malta. This and other reasons lead one to anticipate a more intensive extension of viticulture in Malta.

The new vineyards, both in view of the improved nursery stock and of the improved layout, have maintained everywhere vigorous growth. The very serious damages, of previous years, due to "Roucet" seem to have been eliminated by the destruction which has been carried out of the principal hotbeds of the disease. In fact the cases of disease met with were extremely rare, and they were due to wrong selection of the nursery stock planted.

Methods of vine cultivation has gone on improving all the time, especially as regards grafting operations, green and dry pruning, and the enhancement of the struggle against cryptogamic diseases. On the other hand very little progress has been achieved as regards the selection of grafting scions. The reason of this slow progress is to be looked for primarily in the attitude of distrust with which the farmer regards the new varieties of wine grapes, and also in the lack of organization in the wine industry. For this purpose material improvements may be secured when the Experimental Vineyards will enter upon their period of production.

AMERICAN VINE NURSERIES.

The production of nursery stock in 1936 was as follows :—

Nursery	American Rootlings	Grafted American Rootlings	Rootlings Fruit-trees
Tarxien	8.900	—	—
Ta Sammat	33.100	823	—
Buskett	61.659	—	—
Kerċem	28.500	—	418
Villa Rundle	61.050	—	—
Total	193.209	823	418

The above stock was distributed as follows :—

Movement	American Rootlings	Grafted American Rootlings	Rootlings of Fruit-trees
Sold to the public	185.247	785	44
Planted in Public Gardens	150	—	76
Planted in Nurseries of Mother plants	1.018	—	150*
Planted in nurseries	3.470	—	—
Transplanted in Villa Rundle to be grafted	—	—	298
Planted at Kerċem to be grown for collection	—	24	—
Distributed in Experimental Vineyards	1.752	14	—
Planted at Buskett Public Gardens ...	1.572	—	—

The revenue collected from the American Vine Nurseries, amounted to £268. 17s. 9½d., distributed as follows :—

a) Sale of american vine rootlings and graftlings ...	£236.	9.	4½
b) rootlings of fruit-trees	2.	5.	10
c) potatoes	12.	1.	0
d) wheat	12.	9.	5
e) grapes	4.	0.	9
f) tomatoes and melons		16.	5
g) other fruits		15.	0
Total Revenue	£268.	17.	9½

The new plantations in the nurseries, carried out during the winter 1936-37 were as follows :—

Nursery Stock	Ta Sammat Nursery	Buskett Nursery	Villa Rundle Nursery	Kercem Nursery	Total
American vine cuttings	88,400	107,800	131,456	88,200	415,856
Grafted cuttings	—	4,000	—	—	4,000
Replanted American rootlings	2,400	885	—	185	3,470
American vine rootlings planted for growing as mother-plants	568	—	450	—	1,018
Vine graftlings	—	—	—	24	24
Service graftlings to be grown as mother-plants	—	—	150	—	150

* Representing No. 150 service rootlings grown at Buskett Public Gardens.

Immediately after the harvest of the nursery stock which took place in December 1936, the Tarxien Nursery was considered superfluous to the needs of viticulture. The land, was, therefore, given on lease to a private farmer by the Treasury.

During the year under review, which was a dry year, the American mother-plants were the vines that suffered most in consequence of the draught. Their wood yield failed to reach a full development, and the cuttings prepared from it were attended by a poor establishment. However, no difference worthy of special note was observed in the divers varieties under cultivation. Nevertheless the old mother-plants in all the nurseries, and especially in Gozo, have deteriorated as regards stamina, in such a degree as to invite consideration of their wholesale renewal in the early future.

The new American mother-plant recently planted at Sammat and Villa Rundle Nurseries have developed satisfactorily, although they did not come up to expectations owing to the scarcity of the rain.

The draught experienced during the last two yers has given the "coup de grace" to the collection of local varieties of vines at Villa Rundle. The pitiful state to which it had been reduced, has persuaded us to provide for its eradication, so as to enable us to utilise in a better way the land already occupied by it.

EXPERIMENTAL VINEYARDS.

With the exception of Berl. X Rip. 34 E.M. of the Experimental Vineyard of Siġġiewi, which on that particular land, rather barren, has done very badly from the first year of planting, all varieties of American vines have developed regularly and perfectly, and consequently, they were grafted in March 1937.

Consistently with the imperative necessity of replacing by wine-grape varieties, the table grape varieties which at present are being erroneously and almost exclusively cultivated for the press, seven varieties of vines were selected for the purpose. Great care was bestowed on this selection as it was essential to have only heavy cropping varieties, already sufficiently tested as regards affinity of scion with the American stock commonly used in these regions and at the same time suitable for this climate. Scions of these seven varieties were imported from Italy, with which the different varieties of American vines in the Experimental Vineyards were grafted.

The grafting was duly made in March, and was carried out by sufficiently skilled labourers, under our control, but has not given fully the expected result. The percentage of failures was rather high. No material differences were noted in the different varieties of rootstock or of scion, but only slight differences between one vineyard and another, due to the differences character of the soil. Failures could, therefore, be attributed almost exclusively to bad weather conditions; indeed grafting was followed by an exceednigly dry weather accompanied by high winds, in consequence of which a great number of scions became wilted and a quantity of sprouts desiccated. It cannot be excluded, however, that the untimely and improper carrying out of the necessary works by the farmers themselves, might, in some small measures, have influenced this high percentage of failures of March graftings.

Whilst the successful March graftings have become so firmly established as to draw the attention of farmers, those which failed, were repeated with the exception of those in the Siġġiewi Vineyard, owing to the difficulty of obtaining water in the vicinity for irrigating the vines.

The September graftngs, as far as we can say up-to-date, have exhibited a much lower percentage of failures than the March graftings, both as regards variety or root-stock and of scion. Reliable date can, however, be secured only with the coming Spring in 1938.

In spite of the rather bad years that have been experienced since the time of planting (drought and strong winds), the Experimental Vineyards have hled out promises of success, and, especially in Malta, have already served to persuade farmers, who visit them frequently, of the importance of the deep trenching of the land for the purposes of planting and of the judicious choice of the American root-stock.

Better experimental and propagandistic results may be obtained with the help of these vineyards, after the commencement of the year 1938, when these vineyards will enter upon their period of production.

Valletta, 2nd December, 1937.

A. De Nardo.
Oenologist.

APPENDIX III.

Report of the Superintendent of Public Gardens for the year 1936-37.

SANT'ANTON PUBLIC GARDENS.

Rainfall.

The total rainfall registered in these gardens was 18.15 inches, which is below the average. Rain fell on 39 days, and was distributed as follows :

	1936			1937	
September	...	.31 inches	January	...	2.10 inches
October	...	1.05 ,,	February	...	2.78 ,,
November	...	6.10 ,,	March	...	.60 ,,
December	...	4.77 ,,	April	...	.54 ,,

The wettest month was November with 6.10 inches. The greatest fall during any 24 hours was 1.57 inches registered at 8 a.m. on the 26th November, 1936.

Maintenance and Improvements.

2. These gardens have been maintained in their usual attractive condition, and were kept gay with flowers at all seasons. Two hundred and sixty four dwarf roses were planted on the 6th November, 1936, in the New Rose Garden, in 24 varieties, viz : Earl Haig, La France, Aroma, Caroline Testout, Dame Edith Helen, Etoile de Hollande, Golden Emblem, Hadley, Jonkheer J. L. Mock, Julien Potin, Lady Forteviot, Lady Margaret Stewart, Laurente Carle, Leni Neuss, Maud Cumming, Max Krause, Mrs. A. R. Barraclough, Mrs. G. A. Van Rossem, Mrs. Henry Winnett, Mrs. Wenyss Quin, President Herbert Hoover, Shot Silk, Talisman, W. E. Chaplin. They have all done very well in the well-prepared ground and cool position, and flowered profusely all through the summer. Parallel to the New Rose Garden, two long Carnation Borders, each 160 feet in length, 8 feet broad and 3 feet deep are in course of construction, and will be planted with 360 plants of Perpetual-flowering Carnations in 24 choice varieties next autumn. Flower beds with annuals and other spring-flowering plants were made to last until the Coronation week. Red, white and blue flowers predominated.

Flowering Bulbs.

3. Large collections of flowering bulbs were cultivated during the year, consisting of large-flowered varieties of *Gladiolus Childsii*, *gandavensis* and *Lemoinei*, *Iris barbata* (*Iris germanica* "Tall-Bearded" Flag Iris) in 25 finest, named varieties; Dutch Iris Wedgewood, White Excelsior and Yellow Queen, *Iris susiana*, grey and black mourning Iris; Darwin Tulip Princess Elizabeth, King Harold and Prof. Rawenhoff, Cottage Tulip Mrs. Moon; Daffodil King Alfred and Golden Spur; *Anemone* St. Brigid His Excellency, *A. Fulgens multipetala*; *Ranunculus* Dr. Ragioneri's strain, with very large flowers in many interesting colours; Coloured *Freesia* and *Ixia* in extra selected varieties.

Herbaceous Perennials.

4. The following herbaceous perennials were successfully grown in pots in special compost with vegetable mould along a northern wall, and frequently sprayed to keep up a cool atmosphere around them. *Aster Novae-angliae* Barr's Pink, *A. Novi-belgii* Blue Gem, Ethel Ballard and Little Boy Blue; Delphinium (Perennial Larkspur) Blue Queen and F. W. Smith, *Gaillardia grandiflora* Tangerine; *Lupinus polyphyllus* Highlander and Red Guard, *Phlox decussata* (*paniculata*) Daily Sketch; *Papaver orientale* Dazler, Enchantress and Goliath; *Pyrethrum* double-flowered Lord Rosebery, Progression and Queen Mary; *Trollius hybridus* Empire Day and Lemon Queen.

Plants under Glass.

5. With a great variety of flowering and foliage tender plants, a constant show was to be seen in the glass-houses which are so popular with visitors. Among the subjects which attracted notice were beautiful collections of *Primula sinensis* and *obconica*; *Streptocarpus hybridus* and *Kewensis*; *Calceolaria hybrida*; *Gloxinia* and Tuberous-rooted *Begonia* in splendid varieties *Anthurium Scherzerianum album*, atrosanguineum, *grandiflorum*, *Mad. Dalliere*, *Rothschildianum* and *roseum*; *Clerodendron Balfouri*; *Dieffenbachia Bausei*; *Dracaena Bruanti*; *D. Deremensis Bausei* and *D. Massangeana*; *Adianthum Farleyense*, *Asplenium nidus-avis*, *Nephrolepis cristata*; *Whitmani* and *Woodii*; *Beloperone guttata*. The following Orchids have flowered; *Cattleya Mossiae*, *Cypripedium insignae Harefield Hall*, *C. Insignae Sanderae* (*albinus*), *C. Charlesworthii*, *Dendrobium Wardianum* and *Oncidium papilio*, the butterfly orchid.

Glazed-Roofed Sheds.

6. The collections of Zonal and Regal Pelargoniums grown in pots under the glazed-roofed sheds have been increased by young plants propagated from imported varieties. Other plants in pots grown under these sheds which made a fine display of colour were *Gerbera Jamesonii hybrida*, *Schizanthus wisetonensis*, *Salpiglossis grandiflora superbissima*, *Streptosolem Jamesoni* and *Petunia hybrida superbissima*.

Show Sheds.

7. A permanent display of flowering plants with a background of palms and foliage plants was maintained throughout the year in the range of show sheds at the northern-end of the gardens. Noteworthy were the collections of Azaleas, Camelias, standard Hydrangea, Mimosas, *Spirea prunifolia*, *Lagerstroemia indica*, *Canna* The President, *Libonia floribunda* and *Viburnum opulus*.

Lawns.

8. Lawns made of English fine rye-grass (Lolium perenne) were cultivated on 10 plots of ground, and have been much appreciated by the public, but had to be dug out much before the usual time owing to shortage of water.

Labelling.

9. 230 labels $5'' \times 4''$ and 209 lables $3\frac{1}{2}'' \times 3\frac{1}{4}''$ in rustless white metal with raised black letters have been added this year, and many defaced labels of different patterns have been replaced.

Trees and Shrubs Added.

10. 24 Orange trees, 8 Mandarines, 6 Lemons, 8 ornamental trees, 30 shrubs, 300 roses and 40 creepers have been added to the gardens during the year. The new Bougainvilleas Mrs. Louis Wathen and Orange King and a seedling Flamboyant tree (*Poinciana regia*) having been acclimated and made good growth were planted out in the gardens.

Insect Pest and Diseases.

11. The Red Scale (Chrysomphalus dictyospermi minor) which was much in evidence this year on orange trees and roses, was held in check by spraying with Volck. Green-flies (*Aphides*) were conspicuous on Chrysanthemums and roses, and it was necessary to spray with Katakilla to check the infestation. Aphides also attacked with extraordinary virulence seed-beds of annuals and destroyed a great number of seedlings. Dusting with Pyrethrum powder was found effective in reducing the damage and checking altogether further development. Several outbreaks of Chrysanthemum Rust (*Puccinia hierarcii*), Black spot of the Rose (Actinonema rosae) and Rose Rust (*Phragmidium subcorticium*) were arrested by spraying the attacked plants with *Potassium Salphide* solution 1 to 250. Mildew on roses and *Evonymus japonica* was successfully treated with

flowers of sulphur. Sporadic outbreaks of the fluted scale insect (*Icerya purchasi*) among orange trees was naturally held in check by its special parasite the Australian ladybird *Novius* (*Vedalia*) *cardinalis* which has now been thoroughly naturalized.

Lectures and Advice.

12. 50 lectures have been given by the Inspector of Public Gardens to Assistant Gardeners and Apprentices during the period from 1st April 1936 to the 31st March 1937, on the following subjects:

a) Rose mildew and carnation rust, their mode of infection and control.
b) The anatomical structure of the root and of the stem.
c) Deciduous and evergreen trees adopted for roads and open spaces, their season of planting, pruning and the methods of their propagation.
d) The cultivation of Azaleas, Rhododendrons, Gardenias, Camelias, Orchids, Cyclamen and Caladium.
e) The cultivation of Begonias and the three sections in which they are grouped conveniently. (Tuberous-rooted, Fibrous-rooted and those valued for their ornamental leaves).
f) Pollination — natural, artificial, zoophilous and anemophilous.
g) The meaning of Humus and its use.
h) Plants that are to be grown in greenhouses.
i) Maltese soils and their origin.
j) The importance of the tap-root.
k) The cultivation of citrus trees in all details.

The Superintendent furnished information personally and by correspondence to persons seeking advice in horticulture and arboriculture.

Visitors.

13. The attendance of the Public is still on the increase, especially on Saturday and Sunday afternoons. The number of tourists who visited the gardens during the year was 116,925.

Proceeds.

14. The number of oranges, lemons etc. obtained from Sant'Anton Public Gardens was 9,400 dozen, which were sold by contract for £285. 15. 9. Other proceeds from the sale of fruits, plants, flowers, flower-seeds and firewood amounted to £59. 11. 3, making a total of £345. 7. 0. The total proceeds last year amounted to £366. 14. 0.

Outside Work.

15. The following trees have been planted at the Connaught Hospital, Rabat, for the Charitable Institutions by gardeners employed in Public Plantations:

21 Oleander trees
23 Pine
6 Cercis, Judas trees.

Supply of Cut Flowers to Hospitals.

16. A regular supply of Cut Flowers, three times a week, was made to Hospitals, free of charge, throughout the year from these gardens.

Sant'Anton and Verdala Private Gardens.

17. Substantial improvements have been made in these gardens. The following trees, shrubs and creepers have been added:

Sant'Anton Private Gardens — 10 Grape Fruit trees, 4 orange trees, 4 lemon trees, 60 palms, 2 Pittosporum, 8 Hibiscus, 3 Cestrum, 296 roses, 30 climbing roses, 6 Bougainvilleas, 3 Tecomas, 10 Honeysuckles, 4 Jasmines and 14 Solanum.

Sant'Anton Kitchen Garden — 4 Oleanders, 10 Myoporum and 50 American Vines.

Verdala Private Garden — 24 Oleanders, 2 Plumerias, 2 Pittosporum, 3 Raphiolepis, 2 Bougainvilleas, 2 Plumbago and 1 Solanum.

Other Public Gardens.

18. The Public Gardens at Valletta, Floriana and other parts of the Island, viz: The Lower Barracca, The Upper Barracca, Hastings, St. Michael's, The Palace Yards, Piazza Celsi, Rundle, Kalkara, Miratore, Maglio, Argotti, Sa Maison, Senglea Point, Blata l-Bajda, Luqa Briffa-Żejtun, Gżira, Sliema, Hamrun Station, Birkirkara Station, Museum Station, Joseph Howard-Rabat, have been kept in good order, and spring-flowering annuals made a fine show with a profusion of flowers in many varieties, but summer-flowering annuals were not up to the usual standard of excellence owing to shortage of water. The water service at Joseph Howard Garden, Rabat, and Birkirkara Station Garden was cut off, and water for these gardens, and for Luqa Briffa Garden, Żejtun, had to be conveyed from a long distance by the motor-driven water tank of the Department.

Trees and Shrubs Added.

19. The following trees and shrubs were added to the undermentiond Public Gardens:

Locality	Trees		Shrubs	
Hasting Garden—Valletta	8	Tamarix ...	6	Sanchezia
„ „ „	3	Cercis ...	1	Pittosporum
„ „ „	19	Oleander ...		—
Upper Barracca Garden—Valletta ...	3	Acacia ...	5	Duranta
Rundle Garden—Floriana	18	Oleander ...		—
„ „ „	13	Ficus... ...		—
„ „ „	2	Oak		—
Maglio Garden—Floriana		—	9	Pittosporum
Argotti Garden—Floriana	2	Oak	4	Leonotis
„ „ „		—	21	Pittosporum
Blata l-Bajda Garden	2	Ficus... ...		—
„ „	2	Cercis ...		—
„ „	2	Phoenix ...		—
Joseph Howard Garden—Rabat ..	3	Pine	50	Myoporum
„ „ „ „ ...	2	Cercis ...	20	Justicia
Museum Station Garden—Rabat ...	1	Palm... ...		—

20. Several Public Gardens were used on a number of occasions for holding Shows, Fairs and other entertainments.

PUBLIC PLANTATIONS, MALTA.

Routine and Other Work.

21. Routine work necessary for the maintenance of the numerous trees along roads and open spaces detailed in paragraph 28 of this report, was punctually attended to. Consequent on two successive years of low rainfall, and the high winds which prevailed late in the Winter and early Spring, all the trees in the Public Plantations, especially those planted along the sea-front, suffered severely, and many of their branches dried up. Cutting off the dead wood of so many trees entailed a considerable work. The trimming of the small-leaved ficus (*Ficus lucida*) now so extensively used in the Public Plantations, and which makes such quick growth during the summer, was taken in hand at the right time, in order to keep the trees well balanced and avoid being overthrown by the first gale. As the plantations of this useful species of ficus have been lately greatly extended extra pruners had to be employed.

Irrigation.

22. All trees along roads and open spaces, especially those newly planted, were watered as many times as the water available permitted. The motor-driven water tank of the Department has been of great service in conveying water from a long distance in the shortest possible time. Extra watering casks carried on carts have been also employed.

Shirley Poppies at Ta' Braxia Glacis.

23. Shirley poppies (*Papaver Rhoeas*) sown among the pine trees in the glacis at "Ta' Braxia" made a grand show which was much admired by the public.

Lawns at King Edward VII Avenue.

24. The lawns of Bermuda grass under the Palm trees in King Edward VII Avenue outside Porta Reale, were renewed, as they were spoiled during the construction of the new stone curbs of the parterres. This is the best perennial grass for hot countries which can be kept green, if regularly watered, from March to December. It is inexpensive, and resist the hot summer sun. Stretches of land in several places could be turned into lawns made of this grass but for want of water which is the main difficulty in these Islands.

Commemorative Pine Grove.

25. A pine grove consisting of 230 trees of Aleppo pine (Pinus halepensis) was planted on the Marsa Road "Tat-Tromba" during the Coronation Week, to commemorate the Coronation of King George VI.

Trees Planted.

26. The total number of trees planted during the year was 905. Of this number 365 represented replacement of trees badly damaged or destroyed by men, goats, motor traffic or other vehicles.

New Plantations.

27. The following is a detailed list of new plantations :

Crucifix glacis, Floriana	108 Pine trees
Msida Valley	6 Cercis trees
Tower Road, Sliema	40 Tamarix trees
Workmen Street, Pawla	17 Ficus trees
Via Marsa "Tat-Tromba"	230 Pine trees
Imrieħel Road (Fleur-de-Lys-Rabat Road) ...	15 Oleander trees
Valletta-Rabat Road	20 Pine trees
Valletta-Rabat Road	20 Oleander trees
Sda. Reale, Hamrun	37 Weeping Pepper
Kottonera-St. Edward's Road	18 False Schumack
Fiddien Valley	5 Poplar trees
Fiddien Valley	13 Pecan trees
Bir-id-deheb, Birżebbuġa	11 Ficus trees

Number of Trees and Shrubs along Roads and Open Spaces in Malta and Gozo.

28. The following tables, A and B, show the number of trees and shrubs existing along roads and open spaces in Malta and Gozo, in each district, and the different kinds of trees planted.

Table A.

District.	No. of trees and shrubs.
Valletta—	
Valletta, Floriana, Blata l-Bajda, Ta' Braxia, Pietà, Hamrun, Msida, Sliema, St. Julian's	5,101
Central—	
Marsa, Qormi, Żebbuġ, Mrieħel, Birkirkara, Balzan, Lija, Attard, Naxxar	2,496
Eastern—	
Cospicua, Senglea, Vittoriosa, Kalkara, Żejtun, Żabbar, Wied il-Għajn, Pawla, Tarxien	1,401
Western—	
Rabat, Mdina, Dingli, Mosta, Mġarr, St. Paul's Bay, Mellieħa, Marfa	4,480
Southern—	
Kottonera, Luqa, Safi, Kirkop, Gudja, Birżebbuġa, Mqabba, Żurrieq, Qrendi, Siġġiewi	624
Gozo—	
Mġarr, Għajnsielem, Qala, Nadur, Xgħara, Xewkija, Victoria, Sannat, Xlendi, Kerċem, Żebbuġ, Għasri	3,959
Total	18,061

Table B.

Kinds of trees and shrubs.	Number.
Pine	4,321
Mulberry	2,752
Schumack	1,577
Tamarix	1,406
Ficus	1,073
Oleander	971
Shrubs of different kinds	960
False Pepper	811
Grevillea, Casuarina, Laurel and other kinds of trees	630
Cypress	483
Oak	383
Carob	347
Myoporum	327
Palm	305
Poplar	293
Olive	243
Persian Lilac	207
Orange	203
Judas (Cercis)	184
Phytolacca	138
Elm	76
Jacaranda	59
Ash	43
Caesalpinia	40
Celtis (Nettle-tree)	37
Pecan	35
Koelreuteria	25
Fig	25
Araucaria	19
Eucalyptus	18

Kinds of trees and shrubs.	Number.
Ligustrum	17
Sterculia	12
Acacia	11
Oleaster	18
Plane	6
Fiddle-wood (Citharexylum)	6
Total	18,061

PUBLIC NURSERIES, MALTA.

Propagation.

29. Propagation of trees and shrubs by seeds, cuttings and layers, to meet the requirements of the Public Gardens and Plantations, and to have in hand a surplus for sale and for distribution free of charge whenever authorized, has been carried out at Victoria Gate Nursery — Valletta, St. Philip's Nursery — Floriana, Tax-Xewk Nursery — Tarxien, Tal-Kmand, Nursery, — Lija, and St. Paul's Nursery — Rabat, to a great extent as much as space and other means available permitted.

Trees and Shrubs Supplied.

30. The following table shows the number of trees and shrubs furnished during the year from the Public Nurseries:

To whom supplied	Ornamental trees	Ornamental shrubs	Flowering & ornamental plants	Orange & other Citrus trees	Other fruit trees
Public Plantations	**905**	**—**	**—**	**—**	**—**
Sant'Anton Public Gardens ...	**8**	**30**	**340**	**38**	**—**
Sant'Anton Private Gardens ...	**—**	**62**	**138**	**14**	**—**
Buskett Public Gardens ...	**—**	**—**	**—**	**10**	**—**
Government Institutions, Malta ...	**112**	**86**	**225**	**—**	**—**
Government Institutions, Gozo ...	**20**	**74**	**—**	**46**	**11**
Villa Rundle, Public Plantations and Nurseries, Gozo	**113**	**472**	**12**	**2**	**—**
Private Growers	**28**	**80**	**256**	**219**	**30**
Total ...	**1186**	**804**	**971**	**329**	**41**

Sales.

31. The amount collected from the sale of trees, firewood, etc. from the Public Nurseries and Plantations was £127. 16. 7 as against £131. 19. 5 last year.

VILLA RUNDLE AND PUBLIC PLANTATIONS, GOZO.

Villa Rundle.

Maintenance.

32. These gardens received constant attention. Routine work of pruning, hoeing, manuring, etc. was punctually carried out. Flower-beds of Annuals and Roses made a fine display.

Trees and Shrubs Added and Replaced.

33. 2 *Jacaranda mimosaefolia*, 1 *Ficus rubiginosa*, 1 *Robinia pseudo-acacia*, 1 *Tamarix hispida asetivalis*, 1 *Laurus nobilis*, 9 *Rose bushes*, 9 *Chrysanthemum frutescens*, 2 *Phascolus caracalla* were added; 8 *Ficus lucida*, 2 *Acacia cyanophylla*, 8 *Elaeagnus angustifolia*, 14 *Rose bushes*, 1 *Chrysanthemum frutescens* were replaced.

PUBLIC PLANTATIONS, GOZO.

Maintenance.

34. All the trees along roads and open spaces were well attended to, but suffered to the same extent as the trees at Malta on account of the low rainfall and high winds.

Trees Added and Replaced.

35. The total number of trees planted this year was 304. Of this number 137 represent replacement of badly damaged and destroyed trees.

New Plantations.

36. The following is a detailed list of the new plantations at Gozo :—

Victoria—	
Via Sannat	2 Oleander trees
Via Sannat	8 White Mulberry trees
Wied iċ-Ċanti	6 Tamarix trees
St. Leonard Street	10 Pine trees
Wied ta' Żejta	8 Eucalyptus trees
Għajnsielem—	
Sda. Mġarr ix-Xini	9 Cypress trees
Via Nadur	3 Carob trees
Via Nadur	3 Oleander trees
Port tax-Xwejni	30 Tamarix trees
Nadur—	
Via Nadur, Ta, Xħajma	7 Pine trees
Via Nadur, Ta, Xħajma	6 White Mulberry trees
Via Nadur, Ta, Xħajma	6 Poplar trees
Żebbuġ—	
Sda. Chiesa	7 Oleander trees
Via Żebbuġ	5 White Mulberry trees
Via Żebbuġ	4 Celtis trees
Qala—	
Sda. Concezione	5 Oleander trees
Sda. Concezione	5 White Mulberry trees
Nadur—	
Piazza Chiesa	4 Oleander trees
Wied Marsalforn	20 White Mulberry trees
Kemmuna—	
Congreve Street	20 Tamarix trees

Public Nurseries, Gozo.

Extension of "Tad-Dawwara" Nursery and Stock of Trees.

37. The "Tad-Dawwara" Nursery in Via Kerċem, measuring 4 mondelli and 8 misure, was this year extended by 4 mondelli and 4 misure. A small plot of ground at Villa Rundle ,Victoria, and another small plot at "Ta' Grixti", open day and night to the public and goats to pass through, are also used as Nurseries. Every inch of ground in these small Nurseries is availed of for growing trees and shrubs, but the quantity produced is not always sufficient for the requirements of the Public Plantations, Villa Rundle and Government Institutions, and in such cases trees and shrubs have to be sent from Malta to make good the deficiency. Trees raised from seeds and cuttings take a number of years to grow to a suitable size for planting out, they must, therefore, be propagated in great quantity every year, in order to have a succession of trees of suitable size available, for which considerable space and expenses are necessary.

Trees and Shrubs Supplied.

38. The following table shows the number of trees and shrubs furnished during the year from the Public Nurseries, Gozo :

To whom supplied	Ornamental Trees	Ornamental Shrubs	Flowering Shrubs	Citrus & other fruit trees
Villa Rundle	24	—	35	—
Public Plantations	304	472	23	—
Govt. Experimental Farm, Malta ...	44	—	—	—
Charitable Institutions, Gozo ...	92	74	96	60
Private Growers	7	6	—	3
Total ...	471	552	154	63

Establishment.

39. On the 31st March, 1937, the staff consisted of :

Superintendent	1
Inspector	1
Account Keeper	1
Handyman	1
Head Gardeners	6
Assistant Head Gardeners	4
Gardeners	33
Assistant Gardeners	18
Apprentice Gardeners	17
Caretakers	3
Cartman	1

Absence on Sick and Vacation Leave.

40. The aggregate number of absences on sick leave during the year 1936-37 was 1,047 days. Gardeners were granted 578 days vacation leave during the same period. The average absences on sick and vacation leave per day were 4.5.

APPENDIX IV.

Report on Plant Pathology.

The autumn season of the year 1936 was characterized by heavy frosts, which, in the more exposed localities, have greatly injured the cultivation of potatoes.

The ensuing Winter was marked by scarcity of rain; while the Spring was warm and dry, the Summer temperature reached high peaks, and the Autumn was attended by Scirocco winds and some rainfall.

This course of the meteorological year 1936-37, while limiting the damage of cryptogamic diseases, has favoured the abnormal multiplication of insect-pests on all useful plants, and especially of fruit-tree and vegetable pests.

As regards the cultivation of potatoes, the parasite which undoubtedly engages more the attention of farmers, is the "*Phthorimaeca Operculella*. Z." against which there are practically no efficient methods of control. Infestations of this moth, in contrast with previous years, were observed also on the winter crop. This late generation of the moth may be attributed to the peculiar course of the season, characterized first by early rains, and then by a rather high temperature.

Attacks by *Phytophtora infestans* De Bary, were on the other hand extremely slight and their appearance was prevented by treatments with Bordeaux mixture. Some slight damage produced by *Bacillus solaniperda*, Kramer-Migula, was also noticed here and there.

On cereals there was nothing particular worth recording. The year under review was particularly favourable to the cultivation of cereals.

Vegetables on the contrary, suffered heavily from drought and frost. Nurseries were ravaged by "*Haltica oleracea*, L." and *Pieris brassicae*, L. causing a great damage, lasting till late into autumn.

On leguminous plants aphid attacks were intensive.

Vines were exempt from cryptogamic diseases. As a matter of fact, the attacks of "*Plasmopora viticula*" were negligible, whilst the "*Oidium Tuckeri*" has caused the usual damage to vines in pergolas in the vicinity of wells or along walls exposed to north.

Much more virulent, though reduced to a few localities, were the injuries produced by *Dactilopius vitis*, a scale-insect exudating an abundance of honey-dew, which assists the development of *Capnodium salicinum*, Mont, or vine mould.

The ravages of *Phylloxera vastatrix*, Planchon, which is now disseminated in every vineyard of these Islands, do not call for any consideration, now that almost the totality of vineyards has been reconstituted on American root-stock well selected and resistant to *Phylloxera*.

The *Roncet* disease, which in former years was responsible for extensive damages in nurseries and hence in the plantations of American vine rootlings, is now considered to have been eradicated, with the total uprooting of infected stock. This side of the campaign has required much patient propaganda, which has taxed our activities to no small degree.

As regards fruit-trees, the parasites which have caused the larger amount of damages, are the following :—

a) The fruit-fly or *Ceratitis capitata*, Wied, which from the time of ripening of the earlier stone fruits (peaches, apricots, etc.), to the end of November, 1937, with particular intensity on citrus trees, during the month of October, was everywhere in evidence in extraordinary numbers, exceeding those of previous years, favoured by an optimum of conditions. About 20,000 glass fly-traps baited with "Clensel" have helped to limit the ravages of the fly.

b) *Dacus oleae* was observed everywhere in the few remaining olive-yards. Left to itself this fly has greatly injured the olive crop, which was rather scarce.

c) *Laspeyresia pomonella*, L. has caused a considerable damage to apples, also this year.

d) Amongst the numerous existing scale insects, the following have been more conspicuous for damage produced on citrus-trees :

Chrysomphalus dictyospermi, Morg.
Icerya Purchasii, Mask.
Pseudococcus citri, Risso.
Parlatoria zizifi, Lucas.

Less injurious than the preceding were the following :

Diaspis pentagona, Targ. on citrus trees.
Aspidiotus hederae, Vallot, idem
Coccus hesperidum, L. idem
Lacpidosaphes pinnaeformis, Bouchè idem
Saissetiae oleae, Bern. idem.

e) All kinds of Aphides multiplied enormously till late autumn, both on herbaceous and on arboreal plants, causing considerable damage.

f) *Eriosoma lanigerum*, Hausm. on apple trees, has not failed to multiply abundantly. It was, however, well kept under control by its natural parasite *Aphelinus mali*, Hold, which seems to have found a favourable environment for its vitality. Indeed, in a short time it has spread everywhere where there are apple-orchards infested by *Eriosoma lanigerum*.

g) *Capnodis tenebrionis*, L. and *Cerambix miles*, Bon., on amigdalaceae, and apple- and pear-trees, have continued to tunnel the trunks and stems, particularly in places where no control is attempted.

h) *Zeuzera pyrina*, L. is injurious to branches of pear- and apple-trees, with some intensity.

i) Diverse species of *Curculionides* have spread considerably, both on citrus- apple- and pear-trees, etc., and on different herbaceous plants.

Amongst the fungoid diseases, the following were worthy of note :

a) *Armillaria mellea*, Vahl., which has been noted to be very injurious to fruit-trees in various localities.

b) *Sphaerotheca pannosa* and *Exoascus deformans*, on peach- and almond-trees.

c) *Nectria ditissima*, Tul., on pear- and apple-trees.

d) *Sclerotina Linhartiana* particularly injurious to the service-tree, and *Sclerotina fructigena* on pear- and apple-trees.

e) *Venturia pirina*, Aderhold, which greatly injures every variety of pears, with particularly disastrous results on late varieties.

Other important damages are produced by Gummosis, both on amigdalaceae and on citrus-trees. No less important is the canker of citrus-trees.

Departmental Activities.

The activities of this branch of the Department included :—

a) the usual technical advice and directions in office, and work in the laboratory and in the field;

b) the usual treatment against parasites on farm and orchard crops and ornamental plants in the lands managed by the Department of Agriculture (Experimental Farm, Buskett and Public Gardens in Malta and Gozo), and, on request, in private lands, and in lands administered by other Government Departments;

c) the distribution of "Clensel", free of charge, for the struggle against the fruit-fly. Other insecticides and fungicides were sold to the public. Numerous colonies of *Novius Cardinalis*, to combat the *Icerya Purchasii* were also distributed.

Besides the foregoing, representing the normal activity of this branch, as regards existing plant diseases and pests, the attention of the Phytopathological Service, during the year under review, was especially directed against the parasites of fruit-trees and principally against those of citrus-trees, to which little or no attention had been given in the past.

As a first step, an inspection round was carried out in a good number of orchards and citrus-groves (about a thousand, amongst the largest), with the object of taking stock of their state of cultivation, as well as of the quantities and the nature of the parasites infesting them. The conviction was readily formed of the imperative necessity of carrying out an intensive propaganda, for the purpose of saving the already exiguous number of orchards still extant. Orchards fairly well cultivated were found to be a rarity, and extremely rare indeed were those treated for diseases and pests; while almost all fruit-growers have shown to be utterly ignorant of the so called technique of fruit-growing and the methods of treatment against plant diseases and pests.

Under these conditions, it was decided to start without delay a campaign of propaganda with all the means at our disposal (correspondence, notices in the press, circulars for publication by parish priests, technical advice, visits on the spot), but especially by means of practical demonstrations in the citrus groves and orchards in general, making use of the few skilled workers available. These practical demonstrations included the scientific pruning of fruit-trees, and the treatment of trees against lichens, cryptogamic diseases, afids and scale-insects.

This has served to arouse the interest of growers of fruit-trees, and especially of citrus-trees, who, with the assistance of our staff and the scanty labour we were able to conglomerate and train, have started the pruning and the treatments necessary to their plantations. We have reason to believe that the continuation of this prapaganda should bring about a considerable improvement in the conditions of local fruit-culture, especially if a short practical course of fruit-tree pruning and treatment could be organized. The country, as well as the farmers, would benefit.

Enforcement of Phytopathological Regulations as regards Imports. *

From November 1st 1936 to October 31st 1937, the following consignments of goods were inspected :—

Nature of goods imported	No. of Packages	Quantity
Oranges	489	About 847,470 dozen
Lemons	112	„ 92,774 „
Mandarines	60	„ 32,860 „
Grapefruit...	38	„ 4,049 „
Table Potatoes	45	2,704,200 kilos
Garlic	12	200 bags, 78 boxes
Onions	1	100 bags
Fruit-rootlings and ornamental plants	66	236 crates, 10 bundles, 3 cases and 10 parcel posts
Bulbs	12	7 crates, 2 boxes. 28 parcel posts
Leaf mould	9	57 bags, 1 box
	850	

* As regards exports and the importation of seed potatoes the relevant report is included in Mr. Shill's Report on Agricultural Exports, Mr. Shill being the acting Plant Pathologist for Exports and the importation of seed potatoes.

The citrus-fruits were imported from Sicily, Libya, Tunis, Spain, Palestine, Alexandria and South Africa. The potatoes from the Netherlands, Ireland, Italy, Yugoslavia; the onions from Alexandria; the garlic from Alexandria, Italy, Tunis; the fruit-rootlings, ornamental plants and leaf-mould from Sicily and Italy.

Besides the above, 16 parcels coming through the Customs and the Post Office, not withdrawn, or refused by the addressees, were destroyed. Two consignments of oranges and grapefruit, imported from Haifa were found infested with *Aspidiotus ficus*, Ashm, and were destroyed.

Sixty-seven further consignments of goods duly accompanied by phytopathological certificates, were released.

(Sd.) A. De Nardo,

Acting Plant Pathologist.

APPENDIX V.

Report of the Adviser in Agricultural Marketing and Controller of Agricultural Exports.

1. GENERAL SURVEY OF THE 1937 EXPORT SEASON.

The fact that the winter potato crop was late in germinating was immaterial from the standpoint of exports since market demand rarely calls for shipment before February but the mid-January frost, which terminated growth some two or three weeks before the crop would have reached maturity, caused the yields to be relatively small and the tubers to be generally undersized. The increase in the Belgian demand for winter potatoes was well maintained but owing to the high duties and guilder devaluation and to the residual Dutch domestic supply the demand from Holland was negligible: shipments to Colombo were limited largely owing to shortage of shipping accomodation but, as in 1936, the United Kingdom again imported a fair quantity.

The spring potato crop was quite good and therefore, since the Dutch market only absorbed its average quantity (unlike with its increased consumption with the heavy 1934 spring crop), a fair proportion of the yellow-flesh crop was not shipped: the Dutch market price in guilders remained at about the usual level and therefore, with the duties and taxes being unchanged despite guilder devaluation and with the increased rate of freight, there was a difference of about £2. 10. 0 per ton as compared with 1936 conditions: these factors naturally lowered the local market price for Dutch shipment considerably, the average price being only around 4 scudi per qantar.

The inability of the Dutch market to absorb the over average yellow flesh production was to a large extent compensated for by a brisk demand from the United Kingdom and practically all the available white fleshed potatoes were exported: in addition, appreciable quantities of yellow flesh potatoes were also shipped, particularly to Scotland and to the north of England. In all, some 5,000 tons were exported to the United Kingdom as compared with a maximum annual export of some 1,400 tons in recent years. Considering the good yields local market prices were fairly satisfactory, kidneys averaging around 7 scudi per qantar and rounds about 5½ scudi. Potato moth infestation was fairly general from almost the beginning of the spring crop exports but with the enforcement of rigid inspection the export to the United Kingdom, as in 1936, was maintained.

As regards onions, the late spring rains were much less than in 1936 and, in consequence, the yield was smaller. However, following the fairly satisfactory 1936 prices, a larger acreage was planted and the export exceeded the 1936 total. The 1936 exports, with the introduction of grading regulations, showed a large increase in the exports to the United Kingdom and this year there was another large increase, the United Kingdom taking some 80% of the exports as compared with about 43% in 1936 and around 11% prior to 1936. Prices were again maintained at a fairly satisfactory level of around 3s. per qantar (about 2s. per cwt.).

The cumin seed crop also suffered to a certain extent from the shortage of late spring rains and yields were under average but the quality of the seed was good. Under inspection, the purity of the seed exported has been well maintained. Partly owing to a poor crop in Morocco, the price rose from about £25 per ton in June to about £40 in August but the demand has not to date been very active.

2. GENERAL EXPORT CONTROL ADMINISTRATION.

During the 1936-37 season, a total of 68 persons or firms were registered as exporters of agricultural produce (1934-35, 71; 1935-36; 72) and 80 middlemen were licensed as brokers (1934-35, 110; 1935-36, 85).

The standard form of note of weight for general use with produce for export was again sold as books of notes in quadruplicate at cost price to public weighers. 9,840 such notes of weight were issued during the 1937 season as compared with 11,380 in 1935 and 10,920 in 1936. These books of notes of weight were returned at the end of the export season and checked.

Owing to the pressure of export inspection, little checking of sales for export in the country could be carried out until after the termination of the principal onion exports. A random check was then made throughout the country districts : 25 towns and villages and their vicinities were visited, the books of 46 weighers were inspected and 211 farmers were interviewed to ascertain particulars of their produce sales, these details being subsequently checked with the relative notes of weight. In all instances the farmers interviewed had received the correct payment : a few minor infringements of the Ordinance and regulations were noted but these did not warrant legal action.

Correspondence has been carried on with official and trade circles abroad with reference to general trade matters and, in addition, circulars have frequently been issued to exporters and brokers with reference to seed potato supplies, crop prospects, etc.

For the operation of efficient control and for the protection of produce awaiting shipment the enclosure of the existing Inspection Shed and the provision of an additional enclosed Inspection Shed is urgently required and the question is receiving active consideration.

3. POTATOES.

The principal matters concerning the 1937 potato exports have been outlined in the general survey of the export season and little further comment is needed.

Representations were made to the Netherlands Government asking for a reduction in the duties and taxes, at least in proportion to the devaluation of the guilder, but without success : it would appear that Dutch market conditions will remain the same in 1938 since the general situation is basically unchanged and justifies no hope that further representations for reduction of the duties would prove successful.

Steps have been taken to try and obtain a quota for potato exports to Germany in 1938.

As regards exports to the United Kingdom and potato moth infestation, some infestation, as when in the egg stage, is not detectable before shipment. As such, some infestation in the exports on arrival at destination is unavoidable. To date, the discovery on arrival of more than one living larva in a shipping mark has involved the refusal and re-export of that mark and it has been pointed out that, with the produce of several farmers making up any one mark, the general infestation of all the packages in one mark is very unlikely. The Ministry of Agriculture in London stated that it was not administratively possible to undertake an individual container inspection of condemned marks at the expense of the exporter concerned and it was arranged that the Controller of Agricultural Exports should discuss the question with the Ministry's officials whilst on leave in July/August, 1937. Briefly, as a result of the discussions, it was stated that for various reasons the withdrawal of the potato moth quarantine was impossible and it was further generally agreed that, both in Malta and in the United Kingdom, it was not practicable to base the inspection on individual farmers' lots. However, a proposal that the different broker numbers within a condemned mark should be treated as sub-marks for a second inspection was favourably received and it is hoped to confirm arrangements on this basis : if the treatment of the broker numbers as sub-marks is adopted the number of packages condemned on arrival should be reduced considerably.

In connection with the inspection of potatoes for export during the 1937 season, 844 licences for export were issued (1935, 706 ; 1936, 808). In the course of inspection, a total of 6,252 packages were refused for export (1935, 2,161; 1936, 4,387 including 1,149 refused on account of moth infestation) this total including 3,711 packages refused on account of moth infestation. These refusals for export involved 408 refusals of lots or parts of lots on delivery on the quay, 186 refusals being on account of moth infestation. With refusals for export other than on account of moth infestation or of mixing of varieties, the produce was mostly passed for export after re-grading. In cases of moth infestation, the refused lots were, when such action was requested, re-inspected package by package after a lapse of about 10 days and packages then showing no trace of infestation were passed for export : it should be pointed out, however, that such

individual package inspections take up a considerable amount of time and that in the case of very considerable and general moth infestation re-inspections might not be possible with all produce refused on this account. The exports of potatoes during the period 1933-37 are shown in the following Tables, which also indicate the quantities shipped to the principal export markets.

WINTER CROP POTATO EXPORTS — (1933-1937)

(Tonnage approximate — calculated from numbers of containers)

Importing Countries	1933	1934	1935	1936	1937
United Kingdom ... tons	16	—	40	146	164
Holland ... ... „	2,791	284	694	950	62
Belgium ... ... „	621	199	153	1,049	1,165
Ceylon ... ... „	1,299	193	322	861	424
Miscellaneous ... ... „	531	85	—	—	102
Total Exports	5,258	761	1,209	3,006	1,917

SPRING CROP POTATO EXPORTS — (1933-1937)

(Tonnage approximate — calculated from numbers of containers)

Importing Countries	1933	1934	1935	1936	1937
United Kingdom ... tons	673	1,319	1,365	1,476	5,051
Holland ... ... „	4,358	8,875	5,620	4,500	5,327
Belgium ... ... „	26	356	645	2,068	649
Ceylon ... ... „	28	274	23	11	120
Miscellaneous ... ... „	172	543	271	—	244
Total Exports	5,257	11,367	7,924	8,055	11,391

TOTAL ANNUAL POTATO EXPORTS — (1933-1937)

	1933	1934	1935	1936	1937
Winter Crop Exports (1). tons	5,258	761	1,209	3,006	1,917
Spring Crop Exports (1). „	5,257	11,367	7,924	8,055	11,391
Total Exports (1). ... „	10,515	12,128	9,133	11,061	13,308
Total Exports (2). ... „	10,170	12,343	9,279	11,355	13,695
Values (2)	£ 79,368	£ 105,370	£ 108,323	£ 98,180	£ 116,415

NOTES:—(1) Tonnage approximate—calculated from numbers of containers.
(2) Tonnage and values taken from Customs Returns.

DETAILED STATEMENT OF POTATO EXPORTS IN 1937

Importing Countries	Winter Crop				Spring Crop			
	Casks	Half-casks	Bags	Baskets	Casks	Half-casks	Bags	Baskets
United Kingdom	30	1,348	1,020	—	1,714	26,988	29,891	22,955
Holland	388	—	—	—	25,672	496	23,454	166
Belgium	3,602	2,957	6,298	734	3,051	384	2,611	—
Ceylon	—	—	8,490	—	—	—	2,413	—
Miscellaneous	—	1	2,039	—	—	835	3,539	—
Totals	4,020	4,306	17,847	734	30,437	28,703	61,908	23,121

4. CUMIN SEED.

The cumin seed export regulations have now become well established and their enforcement calls for little comment. By inspection and by analysis of samples taken from consignments for export the quality of the seed has been well maintained. Fraudulent packing of seed has also been controlled.

All the seed exported has been Grade 1, that is, containing less than 5% foreign matter, except two shipments of Grade 2 seed exported by special permission on presentation of the necessary documents. The two Grade 2 consignments consisted of 40 bags to Roumania (5.9% foreign matter) and 25 bags to Ecuador (5.3% foreign matter).

During the year ending November, 1937, a total of 147 samples of seed were analysed for purity in connection with export inspection of 4,855 bags of seed and 99 licences for export were issued, the corresponding figures for inspection during the year ending November, 1936, being 154 analyses, 4,968 bags exported, and 95 licences issued.

The 147 analyses carried out during the year ending November, 1937, include 5 analyses following refusals and recleaning of seed: during the year 12 consignments or parts of consignments totalling 503 bags were refused for export on first inspection. During the previous year 773 bags were refused for export, this figure including 508 bags during the first two months of operation of the export regulations.

A record is kept regarding which country dealer has cleaned each lot of seed presented for inspection and in March, 1937, the dealers were divided into classes according to the quantities of seed cleaned during the period July, 1936, to February, 1937, and six prizes were awarded, totalling £14, to those who had performed the best work.

At the end of the principal export season, the stores of the cumin seed dealers in the country, some 60 in number, were inspected in connection with provision of suitable storage accomodation and prevention of insect infestation.

Exports of cumin seed in recent years may be briefly summarised as follows:—

Importing Countries	Percentage of exports of Cumin Seed in						
	1931	1932	1933	1934	1935	1936	1937(1)
South American countries	12	16	5	37	35	30	44
Germany	24	29	31	23	5	9	5
Holland	32	12	21	16	16	18	18
France	8	20	7	5	20	21	19
Scandinavia	2	1	2	2	7	6	3
Other European countries(3)	5	8	11	6	12	6	11
North African countries	15	8	18	4	5	5	under 0.1
Miscellaneous countries	2	6	5	7	under 1	5	——
Total Exports, cwts.	6,611	6,639	5,228	5,004	5,332	3,724	4,300(2)
Total Values	£12,292	£7,797	£7,887	£11,637	£11,342	£6,715	£7,600(2)

Notes:— (1) 1937 percentages based on exports in first three quarters.

(2) Figures for 1937 export and value approximate — estimated in mid-December.

(3) Exports to the United Kingdom are included under imports "Other European countries". Imports by the United Kingdom in recent years have been:— 1934, 100 cwts; 1935, 450 cwts; 1936, 192 cwts; 1937, about 430 cwts.

It is seen that the increased direct export to the consuming countries in South America is being well maintained and that, after South America, France and Holland are the importing countries next in importance: the demand from the French (Marseilles) market was stimulated in 1935 with the better export seed purity and this market has since then continued to absorb about 20 per cent of the exports.

5. ONIONS.

The principal aspects of the 1937 onion export season have already been outlined in the general survey of the season and call for no particular further mention.

Owing to the relative shortage of spring rains the onions when reaped were generally much drier and more mature than in 1936: in addition, since the drier weather conditions reduced the average size of the onions, the Grade B (large sized) onions were not too large for market requirements and, therefore, in general, the crop was of better export quality.

The effect of the weather on the crop is clearly shown in the percentages of the different grades exported in 1937 (up to mid-December) as compared with the corresponding percentages in 1936:—

Year	Grade A. (medium)	Grade B. (large)	Grade C. (small)
1936	56%	43%	1%
1937	67%	32%	1%

Considerable trouble was experienced in 1936 in distinguishing the different grades of onions on arrival on the quay, particularly since most of the packers and cartmen are illiterate. A regulation was, therefore, passed on June 4th, 1937, which requires the packers to distinguish the grades of onions by tying a piece of coloured tape or ribbon on to the top of the bag or basket when packed, viz: red colour for Grade B, blue colour for Grade C, and no tape or ribbon for Grade A. The enforcement of this regulation gave very satisfactory results: sorting and inspection on the quay was facilitated and complaints from abroad regarding incorrect designation of grades were eliminated. It is proposed to extend this marking of grades with colours to the potato exports.

During the year, up to mid-December, 144 licences for export were issued as compared with 167 in 1936. In the course of inspection 1,933 packages were refused for export (2,004 in 1936) these refusals involving 64 refusals of lots or parts of lots on arrival on the quay. Refusals for export were principally on account of poor size grading and mixing of varieties: the refused onions were mostly sorted under supervision on the quay and then passed for export.

No packages were sealed prior to export in 1937 since it was ascertained from the British Consular officials concerned that sealing for export to Scandinavia was not necessary.

The exports in 1937 (up to mid-December) as compared with the exports during the previous ten years are shown in the following Table.

Exports of Onions from Malta (1927-37)

Year	United Kingdom		Holland		Belgium		Scandinavia		Miscellaneous		Total Exports	
	cwts.	£	cwts.	£	cwts.	£	cwts.	£	cwts.	£	cwts.	£
1927	11,300	2,423	17,913	3,958	2,570	625	773	240	44,735	12,537	77,291	19,783
1928	3,802	587	28,464	4,405	1,588	446	898	258	27,767	5,427	62,519	11,123
1929	2,420	435	43,661	7,513	2,939	549	384	66	33,893	7,939	83,297	15,502
1930	5,385	663	19,254	2,829	400	60	545	115	24,291	4,720	49,875	8,387
1931	7,096	1,442	15,296	3,618	1,326	400	316	82	4,876	1,242	28,910	6,784
1932	12,498	3,064	42,084	7,846	1,027	442	841	136	11.844	2,917	68,294	14,455
1933	2,510	414	13,672	1,027	3,055	132	452	88	4,148	699	23,837	2,360
1934	1,526	212	16,981	1,882	—	—	7,131	1,038	4,471	612	30,109	3,744
1935	1,130	295	1,134	326	809	265	8,478	2,825	885	154	12,436	3,863
1936	19,710	4,508	9,266	2,368	7,560	1,803	9,758	2,864	146	56	46,440	11,599
1937	39,416	—	5,691	—	—	—	3,195	—	200	—	48,502	about 12,000

Notes:— (1) 1927-36 figures extracted from Customs returns. Quantities in 1937 given as numbers of containers, viz: approximately cwts. The total value of the 1937 exports is based on Customs quarterly returns.

(2) The miscellaneous exports in previous years were made principally to North Africa (Tunis and Lybia) and to Italy with, in addition, fair quantities to Germany and Austria during the 1927-30 period.

The majority of the onions exported in 1937 were packed in bags : the bag pack is more standard in weight and proved quite satisfactory this year since the onions were fairly dry and mature when reaped. The following tabular statement shows in detail the different types of containers shipped to various destinations in 1937 :—

Exports to:	Bags	Baskets	Boxes	Total Containers
United Kingdom	26,771	3,413	9,232	39,416
Holland	5,400	127	164	5,691(*)
Norway	1,730	50	—	1,780
Sweden	1,365	50	—	1,415
Finland	200	—	—	200
Totals ...	35,466	3,640	9,396	48,502

(*) Note:— Includes 569 packages possibly unloaded at Antwerp (Belgium).

The very considerable increase in exports to the United Kingdom, already commented upon in the general survey of the season, is the most important feature. It is also noteworthy that included in the 1937 export total to the United Kingdom are some 5,500 packages of the later crop pear shaped type of onion exported in November and December, which secured repeat orders. The main season finished in early August and from then until early November no onions were exported. The opening up of the United Kingdom market, following the introduction of grading regulations, has stabilised the local market price at a fairly remunerative level and has given a steady demand.

It is seen that Holland and Scandinavia were the only other importers of any quantity.

6. MISCELLANEOUS CERTIFICATES.

Apart from inspection of potatoes, cumin seed and onions, commercial certification of agricultural produce was only requested on one occasion, namely in respect of a shipment of dried squills, the necessary certificate being issued.

In a fairly large number of cases the certification of origin in the export licences (commercial export certificates) and/or in the phyto-pathological certificates has not met the requirements of importing non-Empire countries and in such instances a separate certificate of origin has been issued free of charge.

7. PHYTO-PATHOLOGICAL INSPECTION OF PRODUCE FOR EXPORT.

The principal work in this connection was the inspection for potato moth infestation, which is dealt with elsewhere in this report, and the making of arrangements for the necessary certification of exports of onions to Scandinavia. Routine correspondence has also been carried on regarding certification of produce to various destinations. The numbers of phyto-pathological certificates issued to meet the requirements of importing countries or consignees are tabulated below.

Period	Number of certificates issued for export consignments of				Total number of certificates issued
	Potatoes	Onions	Cumin Seed	Miscellaneous Produce	
1936	292	41	21	11	365
1937	345	40	11	14	410

8. IMPORTS OF SEED POTATOES.

The tabulated statement given below shows the quantities of seed potatoes imported for the 1937 spring crop and also the countries of origin of the various varieties. For comparison, the total quantities of the different varieties imported during the previous three seasons are also shown.

Countries of Origin	Quantities of varieties imported in cwts.						Total quantities in cwts. (per season or from each country of origin)
	Champion	Up-to-Date	Northern Invincible	Arran Banner	Eigenheimer	Miscellaneous	
Total 1933-34	61,532	9,690	8,038	310	—	492	80,062
Total 1934-35	61,190	12,562	6,930	1,120	700	882	83,384
Total 1935-36	72,048	11,954	6,920	5,430	1,800	20	98,172
1936-37 Season:							
Northern Ireland ...	50,479	13,334	1,714	1,240	—	—	66,767
Irish Free State ...	650	580	—	8,795	—	—	10,025
Scotland	—	—	—	1,600	—	—	1,600
Holland	—	—	—	—	5,650	300 (Bevelander)	5,950
Total 1936-37 ...	51,129	13,914	1,714	11,635	5,650	300	84,342

Notes:— (1) From 1934-36 about 96% of the seed imports were from Northern Ireland and the seed from Northern Ireland was almost all packed in 2 cwt: bags.

(2) In 1936-37 all the seed was imported in 1 cwt: bags except 12,114 cwts: from Northern Ireland packed in 2 cwt: bags, viz: 4,350 bags Champion; 1,050 bags Up-to-Date; and 657 bags Northern Invincible.

(3) In addition, in 1936-37, 32 cwts. were imported for trial purposes, viz: 5 cwts. King Edward and 5 cwts: Royal Kidney imported privately from the Canary Islands, and 5 cwts: Up-to-Date, 5 cwts: Gladstone, 5 cwts: Kerr's Pink, and 5 cwts: Arran Victory imported by the Department of Agriculture from Northern Ireland for a late planting trial, apart from 2 cwts: of four kidney varieties sent for trial at the Experimental Farm.

The most noteworthy feature is the increase in the import of Arran Banner seed at the expense principally of decreased imports of the Northern Invincible variety: the Arran Banner variety continues to crop well under local conditions and is generally, as regards shape and quality, decidedly preferable to the Invincible variety from the standpoint of market requirements. It is seen also that in 1936-37 there was again an increase in the import of white-flesh seed potatoes (Up-to-Date, Arran Banner and Northern Invincible) for planting for shipment to the United Kingdom. As regards yellow-flesh potatoes, there was a considerable decrease of over 20% in the imports of the Champion variety though this was partly offset by increased imports of the Eigenheimer variety.

By reference to the Table and Note (1) it is seen that there was a considerable increase in imports from countries other than Northern Ireland, particularly from the Irish Free State and Holland. Previous imports from the Irish Free State were 1,120 cwts: in 1934-35 and 2,218 cwts: in 1935-36, and from Holland were 1,000 cwts: in 1934-35 and 1,820 cwts: in 1935-36. There was a corresponding decrease in the imports from Northern Ireland (1934-35, 80,262 cwts: 1935-36, 93,534 cwts:).

All consignments of seed were inspected on arrival and a record was kept of the amount and type of wastage present in each bag examined, a sample of 50 or 100 tubers being taken at random from each bag inspected and examined in detail. The wastage present in the different varieties on arrival, according to the figures recorded during inspection, is shown in the following table.

Varieties of Seed Potatoes	1936-1937 Season						1935-1936 Season	
	Number of bags examined	Average percentage affected with			Percentage Blight and Wet Rot	Total Percentage Wastage	Percentage Blight and Wet Rot	Total Percentage Wastage
		Blight	Wet Rot	Dry Rot				
Champion	2,222	3·6	2·6	3·1	6·2	9·3	6·2	8·9
Up-to-Date	643	2·8	3·1	2·7	5·9	8·6	9·8	13·9
Arran Banner... ...	482	0·9	2·0	2·1	2·9	5·0	2·4	5·2
Northern Invincible ...	57	2·2	3·4	1·5	5·6	7·1	7·3	10·8
Eigenheimer	241	0·3	0·7	0·8	1·0	1·8	1·0	2·3
Miscellaneous	12	—	0·3	1·2	0·3	1·5	2·0	3·3

By reference to the four right-hand columns of the above table it is seen that the condition on arrival of the seed of the Champion, Arran Banner and Eigenheimer varieties was roughly the same as in 1935-36 but that the Up-to-Date and Northern Invincible seed arrived in better condition than in the previous season.

Regulations were passed in July, 1936, to enforce the use of the 1 cwt: bag pack for seed imported after 31st December, 1936, this time limit being fixed to allow the old stock of 2 cwt: bags in Northern Ireland to be used up. Previously, practically all the seed potato exports to Malta from Northern Ireland were packed in 2 cwt: bags; this package was only used for the Malta trade and it was considered that its use should be discontinued since it almost certainly kept the seed more damp, thereby favouring spread of wastage and increasing liability to heating, apart from the fact that with such a large package damage in handling is increased. The Ministry of Agriculture of Northern Ireland kindly assisted in this change of package by ascertaining the stock of 2 cwt: bags on hand and by informing all the exporters in Northern Ireland regarding the requirements of the new regulations. In view of the rather late beginning of the seed potato imports a few 2 cwt: bags were permitted entry in early January but the bulk of the seed from Northern Ireland (some 82%) was imported in the 1 cwt: pack and future imports will be all of this type of package. It is seen that the percentage of wastage in the seed on arrival was not on an average much less than in the previous year but it was much drier and less damaged and kept much better in the period between arrival and sale and planting.

Largely on account of the relatively dry weather in January and February following the heavy rainfall in November and December the germination was generally quite satisfactory.

It was decided to try out other varieties for summer crop planting with a view to possible substitution for the White Elephant variety which is grown as a summer crop for sale on the local market. Following correspondence with the Ministry of Agriculture of Northern Ireland, four varieties namely, Up-to-Date, Arran Victory, Kerr's Pink and Gladstone were selected and 5 cwts: of seed of each variety were imported. 1 cwt: of seed of each variety was planted by the Government at Boschetto and it was arranged with eight farmers in the Rabat and Dingli area that each should plant half a hundredweight of each variety. Planting took place during the last ten days of March and the crops were reaped around the third week of July. All the plantings were irrigated except part of the Government planting and the planting of one of the eight farmers. In view of the fairly dry winter and the lack of spring rains the non-irrigated plantings did not give satisfactory yields but the weighted average yields of the irrigated plantings, expressed as cwts: per cwt: of seed planted, were Up-to-Date, 10.1; Arran Victory, 10.4; Kerr's Pink, 9.2; and Gladstone 10.1. With the local rate of planting, a 10 or 10½ times yield is approximately equivalent to a 6 tons per acre crop. These yields are about the same as those obtained on an average with the White Elephant variety and, in addition, with the exception of the Up-to-Date variety, which is well known locally, the other three varieties tried out had pink or purple skin or pink eyes, which are features which are not liked on the local market. Heavier yields would have tended to counteract this local market colour prejudice, but, since the varieties under trial gave only about the same yield as the White Elephant variety, further trial of these varieties for summer crop planting would not appear to be indicated. The Gladstone variety, however, which is becoming increasingly popular in Northern Ireland, and which gave quite satisfactory yields in several instances, appears to be well worthy of trial as a spring export crop variety. It is white fleshed with a white skin and slightly pink eyes and is round-kidney in shape. Spring crop trials of this variety will be carried out in 1938.

The general variety seed situation may be summarised as follows:

As regards yellow flesh varieties, the Champion variety continues to crop well under local conditions and is in good demand on markets preferring yellow flesh potatoes: import of seed of the Dutch Eigenheimer types is not to be recommended since these varieties give a large percentage of small tubers and the Continental market prefers the Champion variety. An important feature is the recent very considerable reduction in acreage of the Champion variety in Northern Ireland, only 602 acres being grown there in 1937 as compared with 1,375 acres in 1935 and 1,111 acres in 1936; this reduction in Champion acreage is largely because farmers in Northern Ireland are finding production of other varieties more remunerative. The supply of Champion seed may, therefore, be barely enough for 1938 crop requirements but should suffice owing to the probable smaller demand for this seed in view of the present Dutch market conditions. The Champion seed situation, however, needs to be watched carefully since it may be necessary to take steps such as contracting for the purchase of a specified minimum quantity in order to meet local seed requirements for the export trade.

As regards white-fleshed varieties, the Arran Banner variety is meeting the need for a better marketable white-round substitute for the Northern Invincible variety. It is necessary, however, to try and find a possible white fleshed kidney substitute for the Up-to-Date variety; owing to its susceptibility to disease, the Up-to-Date variety is becoming rapidly replaced in Ireland, and locally also its disease susceptibility is an undesirable feature: trials of four new kidney varieties, namely Dunbar Standard, Arran Signet, Ulster Monarch and Seedling A (Arran Peak) were carried out at the Experimental Farm in 1937 (c.f. Experimental Farm Report) but unfortunately these varieties, with the exception of Seedling A, did not crop well under local conditions; further trials of kidney varieties will be carried out in 1938.

31st December, 1937.

(Sgd.) A. C. Shill,
Adviser in Agricultural Marketing
and Controller of Agricultural Exports.

APPENDIX VI.

Report of the Soil Engineer in charge of Fertile Soil Preservation for the calendar year 1937.

1. NOTICES RECEIVED REGARDING SOIL PRESERVATION.

During the year under review 983 notices as required by law were received.

Of this number, 883 applied to Malta while the balance of 100 came from Gozo. This corresponds with 919 from Malta and one hundred (100) affecting Gozo in the previous twelve months ending December, 1936.

2. AMOUNT OF SOIL PRESERVED.

The amount of fertile soil saved in each district was as follows :—

MALTA.

Hamrun	4,569	Cubic Yards
Birkirkara	4,638	,,
Naxxar	775	,,
Pietà	411	,,
Msida	1,491	,,
Gżira	5,861	,,
Sliema	1,333	,,
St. Julian's	1,005	,,
St. Paul's Bay	1,070	,,
Mosta	2,773	,,
Melleħa	93	,,
Għargħur	317	,,
Ta' Xbiex	445	,,
Qormi	6,319	,,
Birżebbuġa	1,906	,,
Dingli	540	,,
Attard	480	,,
Balzan	737	,,
Żebbuġ	642	,,
Wied-il-Għajn	153	,,
Marsaxlokk	1,052	,,
Mqabba	289	,,
Pawla	7,349	,,
Għaxaq	220	,,
Kalkara	516	,,
Kirkop	35	,,
Luqa	1,881	,,
Qrendi	1,165	,,
Marsa	4,208	,,
Mġarr	45	,,
Safi	335	,,
Rabat	3,166	,,
Tarxien	4,481	,,
Żurrieq	538	,,
Żejtun	2,852	,,
Żabbar	3,679	,,
Siġġiewi	2,262	,,
Total of Cubic Yards in Malta	67,691	

Gozo.

Rabat	2,680	Cubic Yards
Sannat	75	,,
San Lawrenz	105	,,
Santa Luċija	75	,,
Xagħra	200	,,
Xewkija	678	,,
Xlendi	35	,,
Żebbuġ	155	,,
Għajnsielem	181	,,
Għarb	1,185	,,
Għasri	215	,,
Kerċem	1,145	,,
Marsalforn	150	,,
Mġarr	72	,,
Munxar	150	,,
Nadur	590	,,
Qala	255	,,
Total of Cubic Yards in Gozo	8,046	
Total of Malta and Gozo	75,737	Cubic Yards

3. COMPARISON WITH OPERATIONS DURING 1936.

The total amount of fertile soil saved by the operation of this law during the year under consideration amounts to 67,691 cubic yards in Malta, and 8,046 in Gozo; grand total 75,737 cubic yards. For purposes of comparison, in 1936, 60,964 cubic yards in Malta and 4,065 cubic yards in Gozo. Total 65,029 cubic yards.

The Fertile Soil saved during 1937 was utilised as follows:— Formation of 218 Back Gardens involving 9,545 cubic yards; 5,930 cubic yards for the formation of 51 Fruit Tree Gardens; 5,926 cubic yards for reclamation of 87 fields at rear of building sites where rocky surfaces were covered; and, 28,099 cubic yards for the reclamation of 107 fields, including the Government Experimental Farm. This means the conversion of waste lands into arable lands.

There were several instances of private individuals requesting fertile soil for their gardens or for their waste lands; every effort was made to put such persons in touch with those who had to remove their soil on account of building operations being contemplated, and in every case satisfaction all round resulted; naturally, all arrangements of this nature were made subject to our approval.

4. RECLAMATIONS.

Notable instances of reclamation during 1937, were as follows:—

1.	Sta. Margherita (Mosta) ta' Ġamri tal-Qandli	235	Cubic Yards.
2.	Sta. Margherita (Mosta) ta' Salv. Mifsud	505	
3.	St. Margherita (Mosta) ta' C. Chetcuti	170	,,
4.	Ġamri tal-Wei, Mosta	360	,,
5.	Ġamri Micallef, Albert Town	158	,,
6.	Field at Wied-Inċita	120	,,
7.	Field in Via Addolorata, Marsa	105	,,
8.	St. Paul's Bay road, Filomena Schembri	122	,,
9.	Field at Xifer il Kief, Mosta	125	,,
10.	Field at Xemxija, St. Paul's Bay	300	,,
11.	Field in Sqaq Ganu, limits of Birkirkara	128	,,
12.	Field at Għajn Istas, St. Paul's Bay, tal-Widni	195	,,
13.	Villa Dragunara	316	,,
14.	Field in Via Canun, Hamrun	2,220	,,

15.	Field at Sgħajtar, Naxxar, ta' Hadidu	130	,,
16.	Field at Mensija, Toni Micallef	362	,,
17.	Field at St. Andrew's, ta' Paolo tal-Mekk	301	,,
18.	Field at Sta. Vennera, Franġisk Attard	363	,,
19.	Field in Sda. Birkirkara, Via Gżira	271	,,
20.	Field ta' Mrejnu, Mġarr, tas-Saqqafi	94	,,
21.	Field in Sqaq San Ġwann, limits of Birkirkara	1,590	,,
22.	Field ta' Menzju, tal-Balal	150	,,
23.	Field tal-Lira, Luqa Hill, Marsa	1,135	,,
24.	Field ta' Portelli, Misraħ Lewża	1,561	,,
25.	Government Experimental Farm, Hammieri, Marsa ...	7,208	,,
26.	Field Sta. Vennera, ta' Dalli	172	,,
27.	Field at Bwieraq, tal-Paromu	140	,,
28.	Field tat-Turretta, Mosta	10	,,
29.	Field near Concezione Chapel, Mosta	80	,,
30.	Field taċ-Ċens, Mosta	65	,,
31.	Field at 'Erba' Mwieżeb, Bur-marrod	65	,,
32.	Field tal-Brulli, Birżegguġa	360	,,
33.	Field ta' Farfar, Birżebbuġa	365	,,
34.	Field ta' Kampisa, Hal-Far Road	192	,,
35.	Field tan-Naqqu, Birżebbuġa	405	,,
36.	Field of G. Schembri, Kalafrana Road	30	,,
37.	Field tan-Newma, Dingli	125	,,
38.	Field in St. Mary Str., Dingli	80	,,
39.	Field tal-Veċċa, Dingli	40	,,
40.	Field in Cospicua Road, Żejtun	68	,,
41.	Filed in Delimara Road, Żejtun	205	,,
42.	Field adjoining Curmi Inst., Żejtun	55	,,
43.	Field tal-Keċċun, Żejtun	320	,,
44.	Field in Sda. Taltas, Żejtun	150	,,
45.	Field at Wied-iz-Ziju, Żejtun	25	,,
46.	Field at It-Trieq tax-Xatt, Żejtun	60	,,
47.	Field tar-Razzett, Żabbar	295	,,
48.	Field tar-Razzett, Żabbar	185	,,
49.	Field ta' Galja, via Xgħajra, Żabbar	90	,,
50.	Field at Cospicua Road, Żabbar	132	,,
51.	Field at Latmija, limits of Żabbar	115	,,
52.	Field tal-Gvern, Nigret, Rabat	393	,,
53.	Field tal-Grun, Nigret Road, Rabat	250	,,
54.	Field tas-Sriedaq, limits of Dingli	168	,,
55.	Field taż-Żebbieġħa, limits of Dingli	120	,,
56.	Villa de Trafford, Rabat	225	,,
57.	Field tas-Swatar, limits of Rabat	101	,,
58.	Field ta' Sonok, Nigret, Rabat	65	,,
59.	Field ta' Denfila, Baħrija	323	,,
60.	St. Paul's Government Nursery	22	,,
61.	Field at Sqaq id-Dejr, Rabat	55	,,
62.	Field ta' Nagnag, via Virtù, Rabat	40	,,
63.	Field at Hal-Bajjada, Dingli Road, Rabat	145	,,
64.	Field at Żabbar Road, Tarxien	387	,,
65.	Field ta' Zakak, limits of Tarxien	288	,,
66.	Field tal-Blat, Fgura, Tarxien	120	,,
67.	Field adjoining Villa of Dr. Cecy, Tarxien	165	,,
68.	Field at Qrendi Road, Żurrieq	290	,,
69.	Field ta' Żguju, il-Bakkari, Hal-Far	125	,,
70.	Field at Luqa Hill	876	,,
71.	Field taż-Żebbuġet, Tarxien Road, Luqa	25	,,

72.	Field at Qrendi-Żurrieq Road, Qrendi	915	,,
73.	Field at Qrendi-Ħaġar-Qim Road, Qrendi	125	,,
74.	Field tal-Bajjada, Marsa	120	,,
75.	Fields tal-Ħlantun and ta' Sant'Antnin, Safi	190	,,
76.	Field at Safi-Żurrieq Road, Safi	85	,,
77.	Field adjoining St. Edward's College	338	,,
78.	Field facing Corradino Prison, Pawla	180	,,
79.	Field at Albert Town	42	,,
80.	Field at Żabbar Road, Pawla	178	,,
81.	Field tal-Borġ, Pawla	56	,,
82.	Behind the Moslem Cemetery	303	,,
83.	Field tal-Frank, Żabbar road, Pawla	386	,,
84.	Field tal-Bajtar, Pawla	45	,,
85.	Field at Nazzareno Str., Pawla	50	,,
86.	Field at Sda. S. Filippo, Għaxaq	85	,,
87.	Field tal-Ħawli, Cospicua	323	,,
88.	Field taż-Żagħab, Mosta Road, Attard	315	,,
89.	Field tat-Trenta, Ħal-Mula, Żebbuġ	250	,,
90.	Field in Dun Mikiel Xerri Str., Żebbuġ	217	,,
91.	Field in Sda. Mula, Żebbuġ	120	,,
92.	Field facing St. Joseph Str., Marsaxlokk	155	,,
93.	Field near St. Peter's Church, Marsaxlokk	45	,,
94.	Field taż-Żejt, Ħal-Farruġ, Mqabba	58	,,
95.	Field near Nghieret, Marsa	145	,,
96.	Field of L. Briffa "Tal-Biedi", Qormi	300	,,
97.	Field Tar-Rampa of R. Ungaro, Qormi	120	,,
98.	Field Tar-Rabbat of S. Briffa, Qormi	1,172	,,
99.	Field Tat-Trux, Qormi	30	,,
100.	Field of V. Borg tal-Lira, Qormi	426	,,
101.	Field ta' Gaxxulli, Qormi	45	,,
102.	Field tal-Armel, Qormi-Żebbuġ Road	70	,,
103.	Field tal-Għammieri, limits of Qormi	85	,,
104.	Field at Qormi, Wied is-Sewda	98	,,
105.	Field at Qormi adjoining Milk Depot	530	,,
106.	Field taċ-Ċattra, Via Luqa, Marsa	467	,,
107.	Field of G. Briffa, tal-Biedi, Qormi	195	,,
108.	Field taċ-Ċarruta at Dingli	251	,,
109.	Field taż-Żubu at Fgura	618	,,
110.	Field tal-Motz at Ramla, Żejtun	827	,,
111.	Field at Inghieret, Lepers' Asylum	957	,,
112.	Field at Marsaskala, Via Ramla	224	,,
113.	Field ta' l-Ombra, Pawla	440	,,
	Total, Fields reclaimed utilising	40,852	,,

Besides the foregoing Ta' Braxia Glacis, which last year had absorbed 3,877 cubic yards of soil, claimed a further 1,614 cubic yards on account of spaces previously unreclaimed.

Crucifix Bastion.

A request to furnish the necessary amount of fertile soil for the Children's playground and garden at Crucifix Bastion, Floriana, was received by my sub-Department towards the end of 1936, when, on account of the rainy weather then prevailing, no soil could be transported. As soon as weather conditions ameliorated early in 1937, steps were taken to meet this demand and, accordingly, 885 cubic yards were carted

to this site. It may not be superfluous to stress that the amenities of this place are in a very great measure due to the presence of the Fertile Soil Ordinance, which, were it not for this Ordinance, would have involved a heavy expense.

Other Public spaces in Harper Area.

Besides Crucifix Bastion garden, the following areas in the close neighbourhood were also dealt with: (i) the space in front of the Great War Monument — the surface serving as a flower-bed being greatly enlarged; (ii) the plot close to the Floriana Pavilion — these two spaces have received 752 cubic yards; (iii) Crucifix Glacis in the proximity of the King George V. Hospital, receiving 110 cubic yards of soil. These two latter spaces have been sown with poppies.

Naval Canteen, Fort Manoel.

A request from the Naval authorities for 100 cubic yards to reclaim land at Manoel Island has resulted in the formation of two flower-gardens.

212 cubic yards of soil were carted to Sa Maison Glacis to be dumped in the new tree-pits.

155 cubic yards of first quality red soil from Mosta were carted to San Antonio Gardens.

An urgent intimation to furnish Fort Chambray (Gozo) with fertile soil, for the purpose of converting a waste into a garden, was satisfactorily complied with; 200 cubic yards being transported at very short notice. Further contingencies of this nature are being prepared for.

5. PROPOSALS FOR AMENDMENTS OF ORDINANCE.

Proposals for new amendments to the existing Ordinance— affecting carters and other transporters of soil, as well as dealing with other specific points of the existing law — were submitted by me during the course of the year.

6. EXPROPRIATIONS BY AIR MINISTRY.

The proposed construction of new aerodromes by the Air Ministry (Ta' Vnezia, Luqa and Hal Far) has resulted in very large tracts of land being withdrawn from cultivation. While bearing in mind that the Fertile Soil Ordinance is being observed in these connections, the fact remains that areas which are relatively large (when the acreage of arable land in these Islands is considered) are being lost to agriculture, and it would be prudent to visualize some means of reclamation on a large scale to compensate for the loss of land that was under the plough.

7. GOZO.

Enforcement of the Fertile Soil Preservation Ordinance in Gozo involved a minimum of trouble inasmuch as those consummate agriculturists make use of every opportunity of acquiring soil for their homesteads. This, combined with the factor of native thrift, renders difficult the task of my sub-Department when soil is required for Government sites, e.g. Fort Chambray.

8. ACTIVITIES AND EXPENDITURE.

Owing to enforced economy consequent on shortage of funds, the activities of my sub-Department are being somewhat restricted where the outlying districts are concerned, while as regards the other centres some physical inconvenience is inevitably entailed.

(Sd.) R. J. D. Cousin,
Soil Engineer.